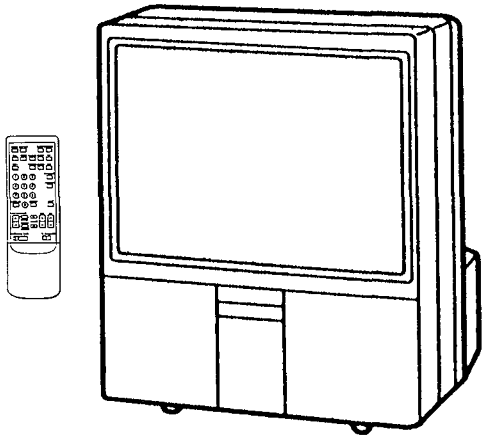
KP-46V15/46V16
KP-53V15/53V16/61V15
RM-Y115

SERVICE MANUAL



US Model

KP-46V15 Chassis No. SCC-F19M-A
KP-46V16 Chassis No. SCC-F19R-A
KP-53V15 Chassis No. SCC-F19N-A
KP-53V16 Chassis No. SCC-F19P-A
KP-61V15 Chassis No. SCC-F19K-A

Canadian Model

KP-46V15 Chassis No. SCC-F23F-A
KP-61V15 Chassis No. SCC-F23D-A

AP CHASSIS

MODELS OF THE SAME SERIES	
KP-46V15/46V16 KP-53V15/53V16/61V15	KP-41EXR96
	KPR-41EXR95
KP-46XBR25/53XBR25/61XBR28	KPR-46XBR15/53XBR15

SPECIFICATIONS

Structure	Screen and projector, rear projection type
Projection system	3 picture tubes, 3 lenses, horizontal in-line system
Picture tube	7 inch high-brightness monochrome tubes (5 5 raster size), with optical coupling and liquid cooling system
Projection lenses	High performance, larger-diameter hybrid lens F 1 0
Screen material	Plastic lenticular, Plastic fresnel

Projected picture size (in inches, measured diagonally)	46 (KP-46V15/46V16) 53 (KP-53V15/53V16) 61 (KP-61V15)
Screen brightness (cd/m^2)	1,600 (KP-46V15/46V16) 1,250 (KP-53V15/53V16) 900 (KP-61V15)
Television system	American TV standards
Channel coverage	VHF: 2-13 UHF: 14-69 CABLE TV: 1-125
Antenna	75- ohm external antenna terminal for VHF/UHF

- Continued on next page -

COLOR REAR VIDEO PROJECTOR

SONY®

MICROFILM

- Input jacks
  - VIDEO IN 1
    - S VIDEO IN (4-pin mini DIN)
      - Y: 1 Vp-p, 75-ohms unbalanced, sync negative
      - C: 0.286 Vp-p (Burst signal) 75-ohms
    - Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative
    - Audio (phono jacks): 500 mVrms (100% modulation) Impedance: 47 kilo-ohms
  - VIDEO IN 2 and 3
    - Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative
    - Audio (phono jacks): 500 mVrms (100% modulation) Impedance: 47 kilo-ohms
- Output jacks
  - MONITOR OUT
    - S VIDEO MONITOR OUT (4-pin mini DIN)
      - Y:1 Vp-p, 75-ohms unbalanced, sync negative
    - Video (phono jacks):1Vp-p, 75-ohms unbalanced, sync negative
    - Audio (phono jacks):500mVrms (100% modulation) Impedance:10 kilo-ohms
  - AUDIO (VAR) OUT (phono jacks)
    - More than 900mVrms (100% modulation) at the maximum volume setting (variable)
    - Impedance:5kilo-ohms
  - AUDIO OUT (phono jacks)
    - 900mVrms (100% modulation)
    - Impedance:5kilo-ohms

Speaker	Two-way coaxial speaker system Woofer 130 mm (5 inches) diameter Tweeter 35 mm (1.4 inches) diameter
Speaker output	12W×2
CENTER SPEAKER input	16Ω NORM. 30W MAX 50W
Power requirements	120 V AC, 60 Hz
Power consumption	310W (max) 7W (standby mode)
Dimensions (w/h/d)	1,029×1,287×543 mm (40 5/8×50 3/4×21 1/2 inches) (KP-46V15/46V16) 1,164×1,336×651 mm (45 7/8×52 5/8×25 3/4 inches) (KP-53V15/53V16) 1,337×1,490×780 mm (52 5/8×58 5/8×30 11/16 inches) (KP-61V15)
Weight	90 kg (198 lb 7 oz) (KP-46V15/46V16) 92 kg (202 lb 7 oz) (KP-53V15/53V16) 130 kg (286 lb 10 oz) (KP-61V15)
Supplied accessories	Remote Commander RM-Y115 (1) with 2 size AA (R6) EVEREADY batteries
Optional accessories	U/V mixer EAC-66 Connecting cable RK-74A VMC-810S/820S YC-15V/30V VCR Tray SU-PJT1

Design and specifications are subject to change without notice.

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

(ATTENTION)

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURTCIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

SAFETY CHECK-OUT
(US Model Only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer

1. Check the area of your repair for unsoldered or poorly-soldered connections Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration Point them out to the customer and recommend their replacement
6. Check the line cord for cracks and abrasion Recommend the replacement of any such line cord to the customer
7. Check the condition of the monopole antenna (if any)
   Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement
8. Check the B+ and HV to see they are at the values specified Make sure your instruments are accurate, be suspicious of your HV meter if sets always have low HV
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

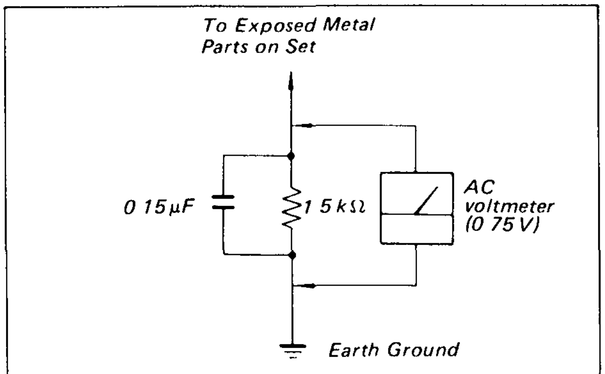


Fig A Using an AC voltmeter to check AC leakage

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0 5 mA (500 microampers) Leakage current can be measured by any one of three methods

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A Follow the manufacturers' instructions to use these instruments
2. A battery-operated AC milliammeter The Data Precision 245 digital multimeter is suitable for this job
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable Nearly all battery operated digital multimeters that have a 2 V AC range are suitable (See Fig A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground, the cover-plate retaining screw on most AC outlet boxes is also at earth ground If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

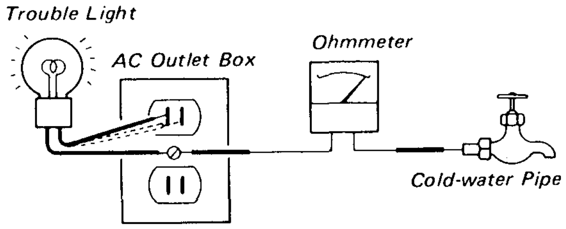


Fig B Checking for earth ground.

TABLE OF CONTENTS

Section *Title* *Page*

1. GENERAL

1-1 Unpacking and Viewing Area ··· 5
1-2 Locating Controls and Connectors ··· 5
1-3. Using the On-Screen Menus ··· 8
1-4. Adjusting Color Registration (CONVERGENCE) ··· 10
1-5 Setting CABLE ON or OFF ··· 11
1-6 Presetting TV Channels ··· 12
1-7. Watching TV Programs ··· 15
1-8 Using Closed Caption ··· 16
1-9 Using Convenient Features ··· 16
1-10 Selecting a Picture and Sound Mode ··· 17
1-11 Watching Two Pictures at Once (PIP) ··· 18
1-12 Adjusting the Projection TV ··· 20
1-13. Customizing the Screen Display ··· 24
1-14. Using Time-Activated Functions ··· 26
1-15. Setting FAVORITE CHANNEL ··· 30
1-16 Using the Pre-Programmed Remoto Commander ··· 31
1-17. Troubleshooting ··· 34

2. DISASSEMBLY

2-1 H1 and H2 Boards Removal ··· 35
2-2 D Board Removal ··· 35
2-3-1 Diffusion Plate Removal (KP-46V15 (US/CND)/46V16 only) ··· 36
2-3-2 Diffusion Plate Removal (KP-53V15/53V16/61V15 (US/CND) only) ··· 36
2-4 Back Cover Removal ··· 37
2-5. Main Chassis Assy Removal ··· 37
2-6. Service Positon ··· 38
2-7 P3 Board Removal ··· 40
2-8 Main Connector Panel Removal ··· 40
2-9. U Board Removal ··· 41
2-10 V Board Removal ··· 41
2-11 N Bracket Removal ··· 41
2-12 G Board Removal ··· 42
2-13 High-Voltage Cable Installation and Removal ··· 42
2-14-1 Connector Cable ··· 43
2-14-2. Connector Cable ··· 43
2-15 Chassis Assy Removal ··· 44
2-16 Picture Tube Removal ··· 44

3. SET-UP ADJUSTMENTS

3-1. Focus Lens Adjustments ··· 45
3-2 Deflection Yoke Position Adjustments ··· 45
3-3 2-Pole Magnet Adjustment ··· 46
3-4 4-Pole Magnet Adjustment ··· 46
3-5 De-Focus Adjustment (Blue) ··· 46
3-6 Green Picture Adjustments ··· 46
3-7. Green and Red Registration Adjustments ··· 49
3-8. Green and Blue Registration Adjustments ··· 50
3-9 Registration Check ··· 51
3-10. White Balance Adjustments ··· 51

4. SAFETY RELATED ADJUSTMENTS

4-1. Safety Related Adjustments ··· 53

5. CIRCUIT ADJUSTMENTS

5-1. Electrical Adjustment by Remote Commander ··· 57
5-2. A Board Adjustments ··· 59
5-3. DS Board Adjustments ··· 62
5-4 P3 Board Adjustments ··· 63

6. DIAGRAMS

6-1. Block Diagram (1) ··· 66
6-2. Block Diagram (2) ··· 69
6-3. Block Diagram (3) ··· 73
6-4 Frame Schematic Diagram ··· 77
6-5 Circuit Boards Location ··· 81
6-6 Schematic Diagrams and Printed Wiring Boards
  (1) Schematic Diagrams of G, H1, H2, and DS Boards ··· 82
  (2) Schematic Diagram of A Board ··· 91
  (3) Schematic Diagrams of U, UT Boards ··· 95
  (4) Schematic Diagrams of E1, E2 Boards ··· 103
  (5) Schematic Diagram of D Board ··· 107
  (6) Schematic Diagrams of M, N Boards ··· 115
  (7) Schematic Diagrams of X2, Y2 Boards ··· 119
  (8) Schematic Diagrams of S, V Boards ··· 127
  (9) Schematic Diagram of P1 Board ··· 130
  (10) Schematic Diagram of P3 Board ··· 133
  (11) Schematic Diagrams of CB, CG, CR, ZB, ZG and ZR Boards ··· 136
6-7 Semiconductors ··· 142

7. EXPLODED VIEWS

7-1-1 Screen Frame and Control Panel (KP-46V15 (US/CND)/46V16) ··· 145
7-1-2. Screen Frame and Control Panel (KP-53V15 /53V16/61V15 (US/CND)) ··· 146
7-2 Cabinet ··· 147
7-3 Chassis ··· 148
7-4 Picture Tube ··· 149

8. ELECTRICAL PARTS LIST ··· 150

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

SECTION 1
GENERAL

1-1. UNPACKING AND VIEWING AREA

1 Carefully follow the instructions on the outside of the packing carton to unpack the projection TV.

Notes

- The supplied accessories are packed in the bottom of the carton. Be sure not to throw them away.
- Keep the original carton and packing materials to safely transport the projection TV in the future.

2 Check to make sure that the following is included:

Universal Remote Commander
  RM-Y112A (1) (for KP-41EXR96)
  RM-Y115 (1) (for other models)
with 2 size AA (R6) EVEREADY batteries

If the Remote Commander is missing, contact your dealer.

3 Place the projection TV in a cool, dry place where the ventilation openings at the sides are not blocked.

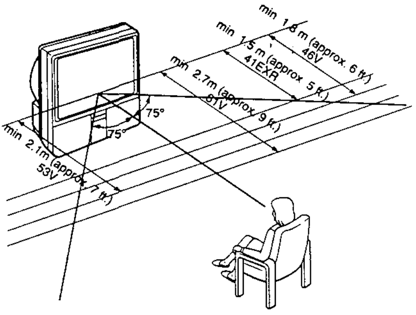
4 Plug the projection TV power cord into an AC 120 volt power outlet.

For further precautions, see p. 2.

Optimum viewing area

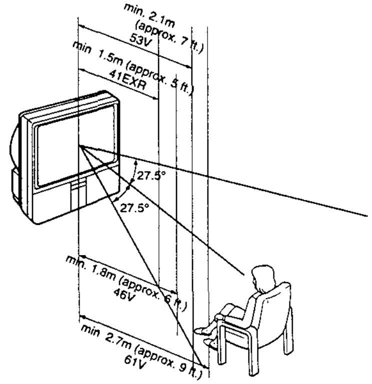
For the best picture quality, try to position the projection TV so that you can view the screen from within the areas shown below.

Horizontal viewing area


min 1.8 m (approx. 6 ft.)
46V
min 1.5 m (approx 5 ft.)
41EXR
min 2.7m (approx. 9 ft.)
61V
75°
75°
min 2.1m (approx. 7 ft.)
53V

Optimum viewing position

Vertical viewing area

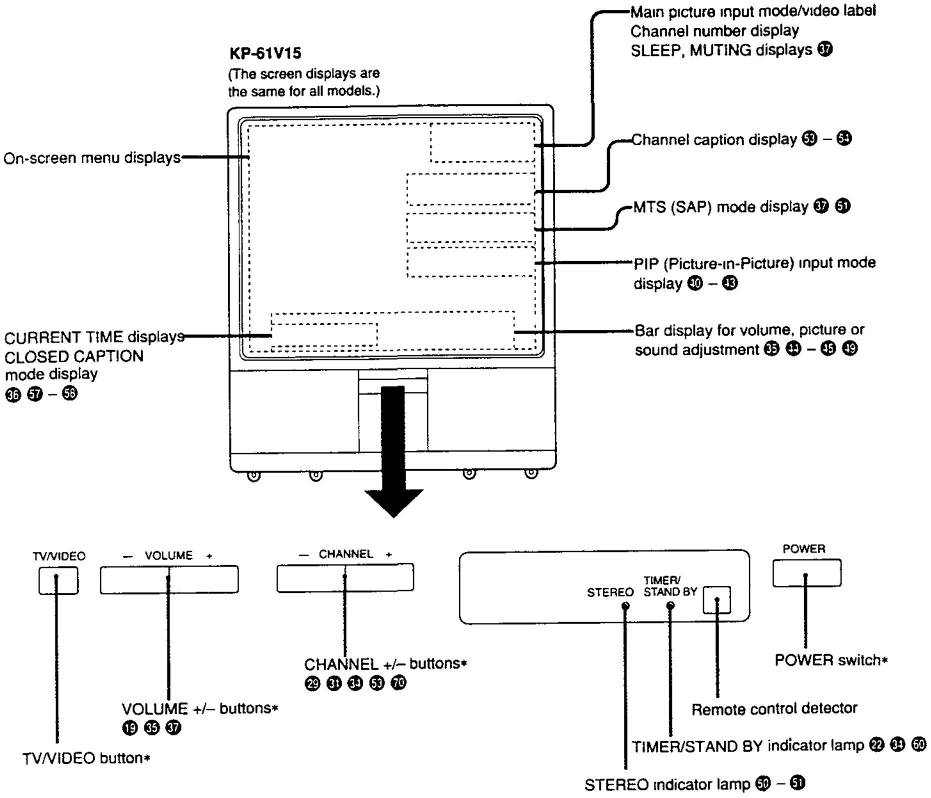

min. 2.1m (approx. 7 ft.)
53V
min 1.5m (approx. 5 ft.)
41EXR
27.5°
27.5°
min. 1.8m (approx. 6 ft.)
46V
min 2.7m (approx. 9 ft.)
61V

Optimum viewing position

1-2. LOCATING CONTROLS AND CONNECTORS

For details, see the pages indicated by the numbered black circles ●

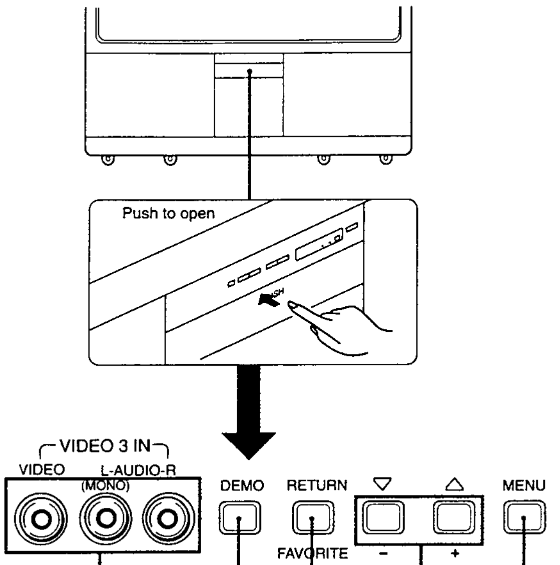
Front


KP-61V15
(The screen displays are the same for all models.)
Main picture input mode/video label
Channel number display
SLEEP, MUTING displays ㊲
Channel caption display (53) – (54)
MTS (SAP) mode display ㊲ (51)
PIP (Picture-in-Picture) input mode display ㊵ – ㊸
Bar display for volume, picture or sound adjustment ㉟ ㊹ – ㊺ ㊾
On-screen menu displays
CURRENT TIME displays
CLOSED CAPTION mode display ㊱ (57) – (58)
TV/VIDEO
– VOLUME +
– CHANNEL +
STEREO
TIMER/ STAND BY
POWER
TV/VIDEO button*
VOLUME +/– buttons* ⑲ ㉟ ㊲
CHANNEL +/– buttons* ㉙ ㉛ ㉞ (53) (70)
POWER switch*
Remote control detector
TIMER/STAND BY indicator lamp ㉒ ㉞ (60)
STEREO indicator lamp ㊿ – (51)

* Buttons with the same function are also located on the Remote Commander (p. 10).

Front inner panel

KP-61V15


Push to open
VIDEO 3 IN
VIDEO
L-AUDIO-R
(MONO)
DEMO
RETURN
▽
△
MENU
FAVORITE
–
+

MENU button*

A/V window ▲+/▼– buttons*

RETURN/FAVORITE button* (63)

DEMO button ㊲

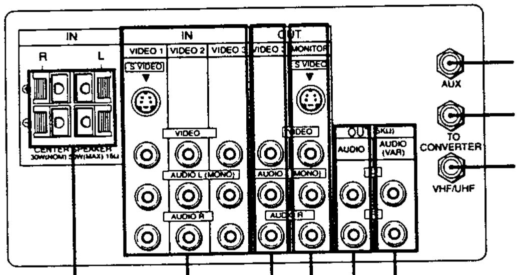
VIDEO 3 IN (input) jacks
(VIDEO/L(MONO)-
AUDIO-R) ⓰ ⓰ ㊶

* Buttons with the same function are also located on the Remote Commander (p. 10).

Note
The instructions in this manual are based for the most part on operating the projection TV with the Remote Commander. You can also use the buttons on the projection TV that have the same function.

Rear

KP-61V15


IN
R
L
CENTER SPEAKER
30W(NOM) 50W(MAX) 16Ω
IN
VIDEO 1
VIDEO 2
VIDEO 3
S VIDEO
VIDEO
AUDIO L (MONO)
AUDIO R
OUT
VIDEO 3
MONITOR
S VIDEO
VIDEO
AUDIO
(MONO)
AUDIO R
OUT
AUDIO
AUDIO (VAR)
AUX
TO CONVERTER
VHF/UHF

AUX (auxiliary) terminal
(except for KP-41EXR96) ⓮

TO CONVERTER terminal
(except for KP-41EXR96) ⓮

VHF/UHF antenna terminal
⓭ – ⓰ ㊶

AUDIO (VAR) OUT jacks ⓳

AUDIO OUT jacks ⓱ ⓳

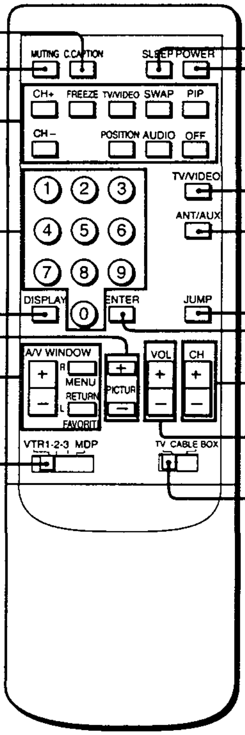
MONITOR OUT jacks ⓱ – ⓲

VIDEO 3 OUT jacks ⓲

VIDEO 1/2/3 IN jacks ⓯ – ⓰ ㊶

CENTER SPEAKER IN terminals ⓳

Remote Commander (with the video control cover closed)


MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH –
POSITION
AUDIO
OFF
1
2
3
4
5
6
7
8
9
0
TV/VIDEO
ANT/AUX
DISPLAY
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
+
–
VTR1-2-3 MDP
TV CABLE BOX

C. CAPTION (Closed Caption) button ㊱

MUTING button ㊲

PIP (Picture-in-Picture) buttons ㊵ – ㊸

0 – 9 buttons ㉝ – ㉞ (53) (64) (68) (70)

DISPLAY button ㊲

PICTURE +/– buttons ㊺

A/V WINDOW buttons ㉑ – ㉝ ㊳ – ㊴ ㊹ – (65) (71) – (72)

VTR1-2-3 MDP selector (66) – (68) (71) (72)

SLEEP button ㊲

POWER button*

TV/VIDEO button*

ANT/AUX(antenna/auxiliary) button (RM-Y115 only) ㉘ ㉞

JUMP button ㊲

ENTER button

CH (channel) +/– buttons* ㉙ ㉛ ㉞ (53) (70)

VOL (volume) +/– button* ⑲ ㉟ ㊲

TV/CABLE BOX selector (70)

RM-Y115

RM-Y112A:	KP-41EXR96
RM-Y115:	KP-46V15
	KP-46V16
	KP-53V15
	KP-53V16
	KP-61V15

* Buttons with the same function are also located on the projection TV (p. 7).

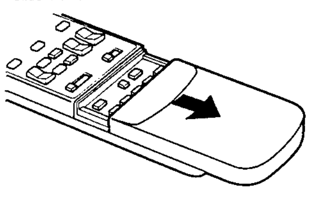
Note

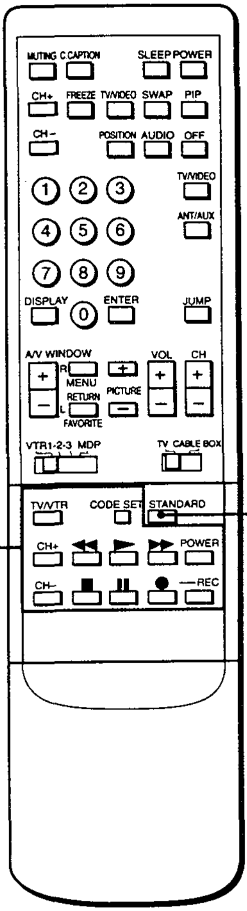
If the TV/CABLE BOX selector is set to CABLE BOX, the Remote Commander is able to control a connected cable box, not the projection TV (p. 70). Set the selector to TV to control the projection TV with the Remote Commander.

Remote Commander (with the video control cover open)

Opening the video control cover

Slide the cover down.




MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH –
POSITION
AUDIO
OFF
1
2
3
4
5
6
7
8
9
0
TV/VIDEO
ANT/AUX
DISPLAY
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX
TV/VTR
CODE SET
STANDARD
CH+
POWER
CH–
REC

STANDARD button ㊴ ㊺ ㊾

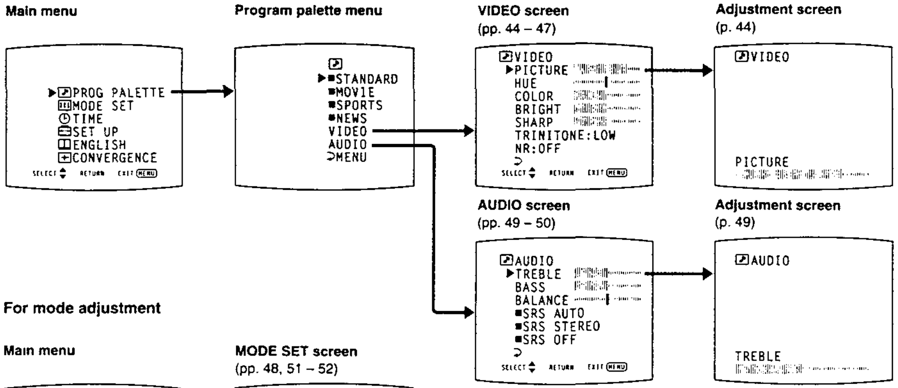
Video operating buttons (66) – (68) (71)

RM-Y115

1-3. USING THE ON-SCREEN MENUS

The following flow chart shows the different levels of on-screen menus that you can use to make various adjustments and settings. See the indicated pages for instructions on using each feature.

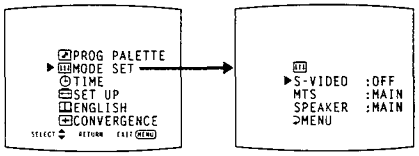
For picture and sound quality adjustment


Main menu
▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT RETURN EXIT MENU
Program palette menu
▶■STANDARD
■MOVIE
■SPORTS
■NEWS
VIDEO
AUDIO
MENU
VIDEO screen
(pp. 44 – 47)
VIDEO
▶PICTURE
HUE
COLOR
BRIGHT
SHARP
TRINITONE:LOW
NR:OFF
SELECT RETURN EXIT MENU
Adjustment screen
(p. 44)
VIDEO
PICTURE
AUDIO screen
(pp. 49 – 50)
AUDIO
▶TREBLE
BASS
BALANCE
■SRS AUTO
■SRS STEREO
■SRS OFF
SELECT RETURN EXIT MENU
Adjustment screen
(p. 49)
AUDIO
TREBLE

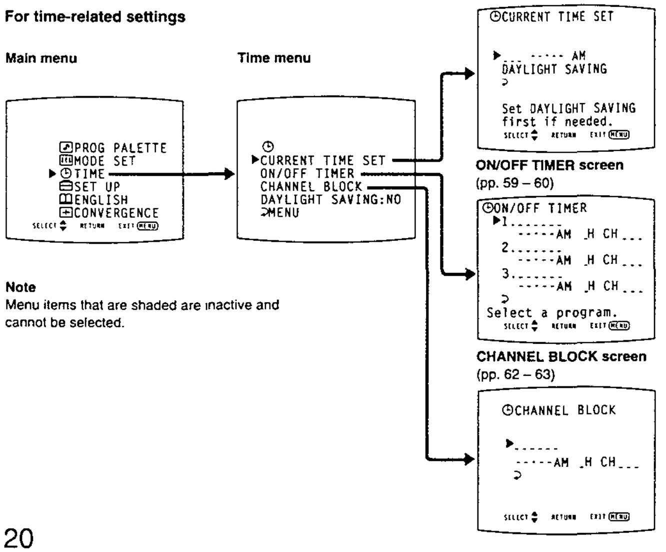
For mode adjustment

Main menu

MODE SET screen
(pp. 48, 51 – 52)

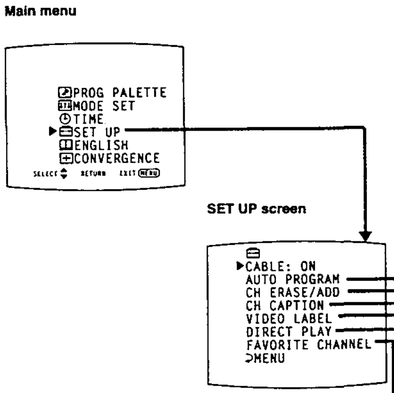

PROG PALETTE
▶MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT RETURN EXIT MENU
▶S-VIDEO :OFF
MTS :MAIN
SPEAKER :MAIN
MENU

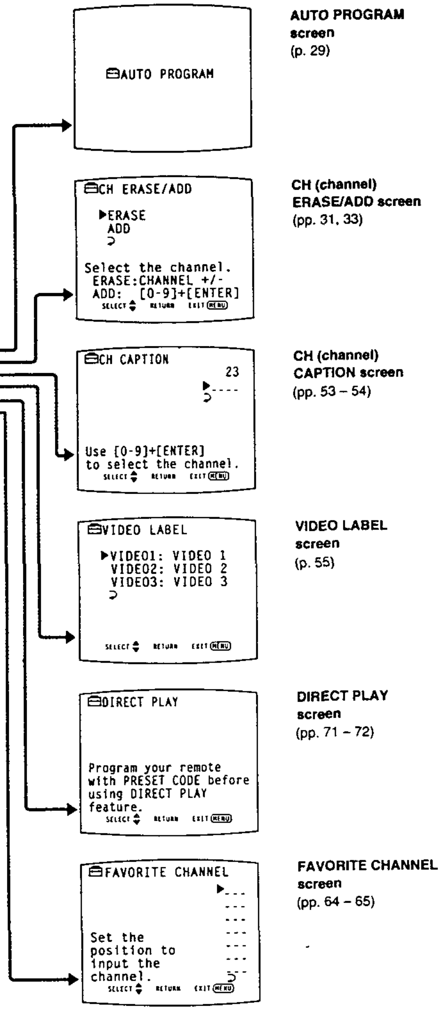
For time-related settings


CURRENT TIME SET screen
(pp. 57 – 58)
Main menu
Time menu
PROG PALETTE
MODE SET
▶TIME
SET UP
ENGLISH
CONVERGENCE
SELECT RETURN EXIT MENU
▶CURRENT TIME SET
ON/OFF TIMER
CHANNEL BLOCK
DAYLIGHT SAVING:NO
MENU
CURRENT TIME SET
▶-- ----- AM
DAYLIGHT SAVING
Set DAYLIGHT SAVING first if needed.
SELECT RETURN EXIT MENU
ON/OFF TIMER screen
(pp. 59 – 60)
ON/OFF TIMER
▶1.-------
------AM _H CH---
2.-------
------AM _H CH---
3.-------
------AM _H CH---
Select a program.
SELECT RETURN EXIT MENU
CHANNEL BLOCK screen
(pp. 62 – 63)
CHANNEL BLOCK
▶------
-----AM _H CH---
SELECT RETURN EXIT MENU

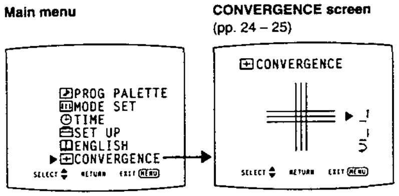
Note
Menu items that are shaded are inactive and cannot be selected.

For presetting and other functions


Main menu
PROG PALETTE
MODE SET
TIME
▶SET UP
ENGLISH
CONVERGENCE
SELECT RETURN EXIT MENU
SET UP screen
▶CABLE: ON
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
MENU

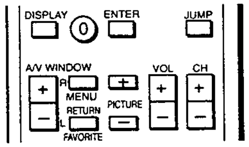

AUTO PROGRAM
AUTO PROGRAM screen
(p. 29)
CH ERASE/ADD
▶ERASE
ADD
Select the channel.
ERASE:CHANNEL +/-
ADD: [0-9]+[ENTER]
SELECT RETURN EXIT MENU
CH (channel) ERASE/ADD screen
(pp. 31, 33)
CH CAPTION
23
▶----
Use [0-9]+[ENTER] to select the channel.
SELECT RETURN EXIT MENU
CH (channel) CAPTION screen
(pp. 53 – 54)
VIDEO LABEL
▶VIDEO1: VIDEO 1
VIDEO2: VIDEO 2
VIDEO3: VIDEO 3
SELECT RETURN EXIT MENU
VIDEO LABEL screen
(p. 55)
DIRECT PLAY
Program your remote with PRESET CODE before using DIRECT PLAY feature.
SELECT RETURN EXIT MENU
DIRECT PLAY screen
(pp. 71 – 72)
FAVORITE CHANNEL
▶---
Set the position to input the channel.
SELECT RETURN EXIT MENU
FAVORITE CHANNEL screen
(pp. 64 – 65)

For CONVERGENCE adjustment


Main menu
CONVERGENCE screen
(pp. 24 – 25)
PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
▶CONVERGENCE
SELECT RETURN EXIT MENU
CONVERGENCE
SELECT RETURN EXIT MENU

Navigating through the menus

Remote Commander


DISPLAY
ENTER
JUMP
A/V WINDOW
MENU
RETURN
PICTURE
FAVORITE
VOL
CH

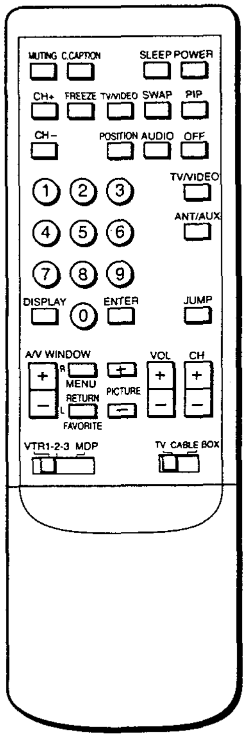
To display the main menu
Press MENU.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

Note
The menus disappear automatically, if you do not press a button within 90 seconds.

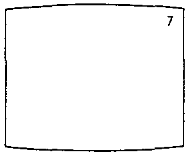

MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH−
POSITION
AUDIO
OFF
TV/VIDEO
ANT/AUX
1
2
3
4
5
6
7
8
9
DISPLAY
0
ENTER
JUMP
A/V WINDOW
R
L
MENU
RETURN
PICTURE
FAVORITE
VOL
CH
VTR1-2-3
MDP
TV
CABLE
BOX

RM-Y115

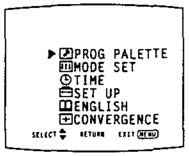
Changing the menu language

The menu language is factory-set to ENGLISH. Follow these instructions to change the menu language to Spanish or French, or back to English.

1 Press POWER to turn on the projection TV.
TIMER/STAND BY indicator blinks until the picture appears.

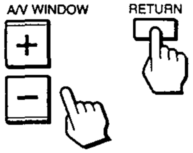


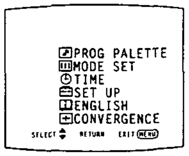
2 Press MENU.
The main menu appears.



▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT ⬍ RETURN EXIT MENU

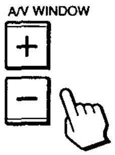
3 Press A/V WINDOW +/– until the cursor points to "ENGLISH."
Then press RETURN.
The language display turns red.

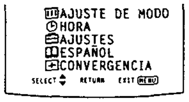

A/V WINDOW
RETURN



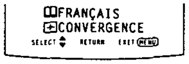
PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT ⬍ RETURN EXIT MENU

4 Press A/V WINDOW +/– to select the language.
Each time you press A/V WINDOW +/–, the "ESPAÑOL," "FRANÇAIS" and "ENGLISH" menus appear.

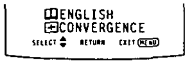




AJUSTE DE MODO
HORA
AJUSTES
ESPAÑOL
CONVERGENCIA
SELECT ⬍ RETURN EXIT MENU



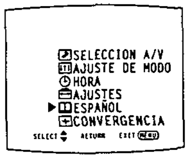
FRANÇAIS
CONVERGENCE
SELECT ⬍ RETURN EXIT MENU



ENGLISH
CONVERGENCE
SELECT ⬍ RETURN EXIT MENU

Note
Certain parts of the "ESPAÑOL" and "FRANÇAIS" menus remain in English.

5 Press RETURN.
The language is selected.



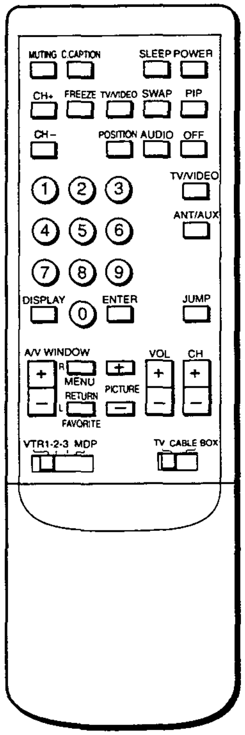
SELECCION A/V
AJUSTE DE MODO
HORA
AJUSTES
▶ESPAÑOL
CONVERGENCIA
SELECT ⬍ RETURN EXIT MENU

Spanish menu

To return to the normal screen.
Press MENU.

Notes concerning menus
- During PIP (Picture-in-Picture) mode, the on-screen menus may overlap the window picture.
- The menus disappear automatically, if you do not press a button within 90 seconds.

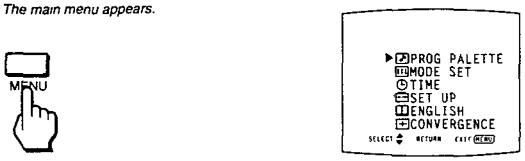
1-4. ADJUSTING COLOR REGISTRATION (CONVERGENCE)


MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
1
2
3
TV/VIDEO
4
5
6
ANT/AUX
7
8
9
DISPLAY
0
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3
MDP
TV
CABLE BOX

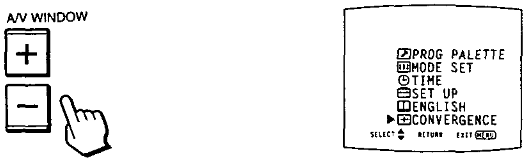
RM-Y115

In a projection TV, the projection tube image appears on the screen in three color layers (red, green and blue). If these layers are not in proper registration, the color is poor and the picture blurs. To correct this, perform the CONVERGENCE adjustment.

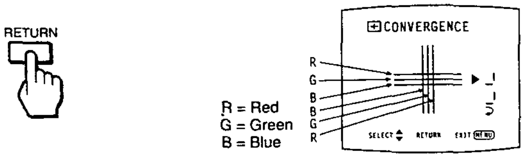
1 Press MENU.
The main menu appears.


MENU
PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

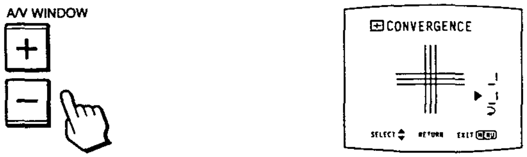
2 Press A/V WINDOW +/– until the cursor points to "CONVERGENCE."


A/V WINDOW
+
–
PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

3 Press RETURN.
The CONVERGENCE screen and the colored adjustment lines appear.

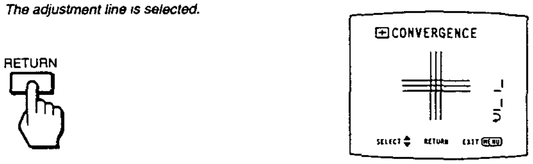

RETURN
R = Red
G = Green
B = Blue
CONVERGENCE
R
G
B
B
G
R
SELECT
RETURN
EXIT MENU

4 Press A/V WINDOW +/– until the cursor points to the symbol representing the line you want to adjust (see the key below).

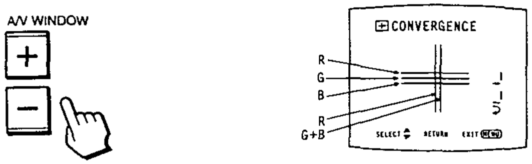

A/V WINDOW
+
–
CONVERGENCE
SELECT
RETURN
EXIT MENU

Adjustment line symbols key
| (red vertical: left/right adjustment)
— (red horizontal: up/down adjustment)
| (blue vertical: left/right adjustment)
— (blue horizontal: up/down adjustment)

5 Press RETURN.
The adjustment line is selected.

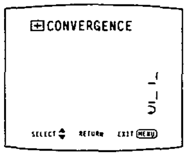

RETURN
CONVERGENCE
SELECT
RETURN
EXIT MENU

6 Press A/V WINDOW +/– until the line converges with the center green line. Then press RETURN.


A/V WINDOW
+
–
CONVERGENCE
R
G
B
R
G+B
SELECT
RETURN
EXIT MENU

To move up To move right	Press A/V WINDOW +.
To move down To move left	Press A/V WINDOW –

7 Repeat steps 4 – 6 to adjust the other lines, until all the lines have overlapped to form a white cross.

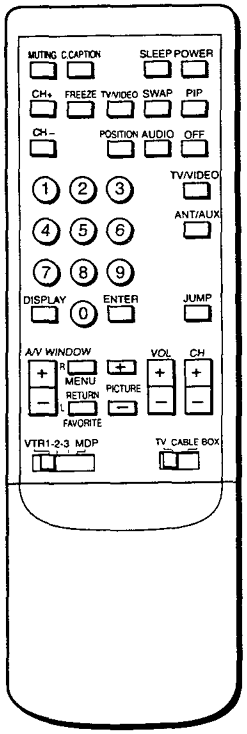

CONVERGENCE
SELECT
RETURN
EXIT MENU

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Press MENU.

1-5. SETTING CABLE ON OR OFF

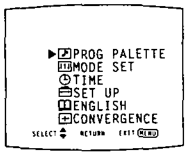

MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
TV/VIDEO
ANT/AUX
DISPLAY
ENTER
JUMP
A/V WINDOW
MENU
RETURN
PICTURE
FAVORITE
VOL
CH
VTR1-2-3
MDP
TV
CABLE BOX

RM-Y115

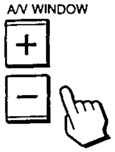
If you have cable connected to the projection TV, follow the steps below to set the cable connection on or off. Set CABLE OFF to preset or watch VHF or UHF channels, and set CABLE ON to preset or watch cable TV channels.

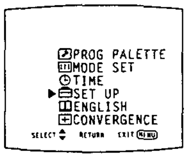
Note
If the projection TV is in video mode, the "CABLE" display is shaded and cannot be selected.
Press TV/VIDEO to change to TV mode.

1 Press MENU.
The main menu appears.

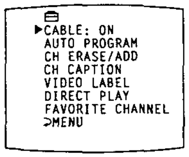

▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT

2 Press A/V WINDOW +/– until the cursor points to "SET UP."

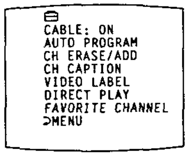



PROG PALETTE
MODE SET
TIME
▶SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT

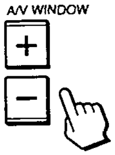
3 Press RETURN.
The set up menu appears, and the cursor points to "CABLE."

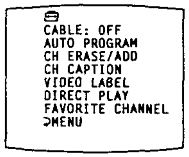

▶CABLE: ON
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

4 Press RETURN again.
The mode display turns red.

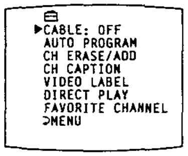

CABLE: ON
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

5 Press A/V WINDOW +/– to select "ON" or "OFF."




CABLE: OFF
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

6 Press RETURN.
The setting is complete.


▶CABLE: OFF
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to "⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Press MENU.

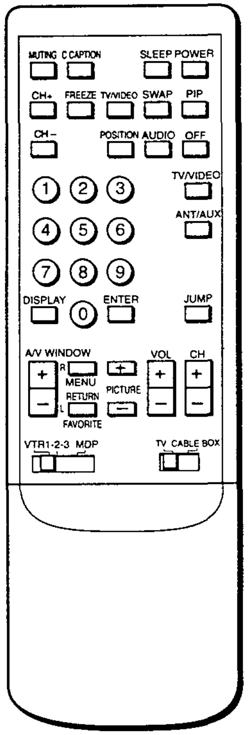
Cable TV channel chart*
Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

Number on this TV	Corresponding CATV channel
1	A-8
5	A-7
6	A-6
14	A
15	B
16	C
17	D
18	E
19	F
20	G
21	H
22	I
23	J
24	K
25	L
26	M
27	N
28	O
29	P
30	Q
31	R
32	S
33	T
34	U
35	V
36	W
37	W+1
38	W+2
39	W+3
⋮	⋮
93	W+57
94	W+58
95	A–5
96	A–4
97	A–3
98	A–2
99	A–1
100	W+59
101	W+60
102	W+61
⋮	⋮
123	W+82
124	W+83
125	W+84

Check with your local cable TV company for more complete information on the available channels.
* The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

1-6. PRESETTING TV CHANNELS

By presetting TV channels to the projection TV, you can select channels by pressing CH (CHANNEL) +/–
(You can select VHF channels 2 – 13 without presetting.)


MUTING
C CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
TV/VIDEO
1
2
3
ANT/AUX
4
5
6
7
8
9
DISPLAY
0
ENTER
JUMP
A/V WINDOW
+
–
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1·2·3 MDP
TV CABLE BOX

RM-Y115

Presetting all receivable channels automatically

Follow these instructions to preset all the receivable VHF, UHF or cable TV channels to the projection TV.

Notes

- If the projection TV is in video mode, the "AUTO PROGRAM" display is shaded and cannot be selected. Press TV/VIDEO to change to TV mode.
- Perform auto programming during the day rather than late at night, when some channels may not be broadcasting.

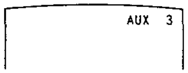
1 Set the cable connection on or off (pp. 26 – 27) to select the type of channel you want to preset, VHF/UHF or cable TV.

To preset VHF or UHF channels

To preset cable TV channels

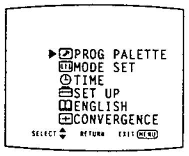
Press ANT/AUX to select the type of channel you want to preset, VHF/UHF/regular cable TV, or pay cable TV connected to the AUX (auxiliary) terminal (except for KP-41EXR96).

To preset VHF, UHF or regular cable TV channels

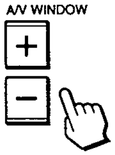


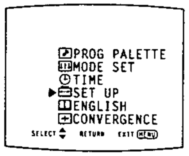
To preset pay cable TV channels

2 Press MENU.
The main menu appears.

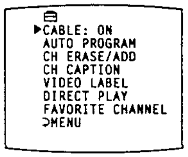

▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

3 Press A/V WINDOW +/– until the cursor points to "SET UP "

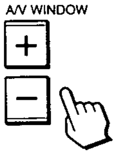


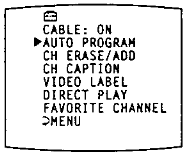

PROG PALETTE
MODE SET
TIME
▶SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

4 Press RETURN.
The set up menu appears.

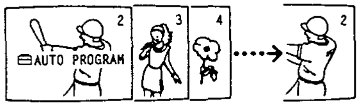

▶CABLE: ON
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

5 Press A/V WINDOW +/– until the cursor points to "AUTO PROGRAM."



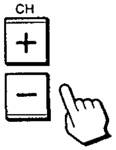

CABLE: ON
▶AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

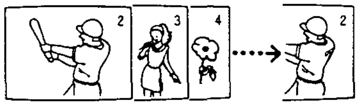
6 Press RETURN.


2
AUTO PROGRAM
3
4
2

"AUTO PROGRAM" appears on the screen and receivable channels (other than the channels already preset) are preset in numerical sequence. The channels previously preset will not remain in the projection TV's memory.
When no more channels are found, auto programming stops and the screen returns automatically to the set up menu.

7 Press CH +/– to check or view the preset channels.





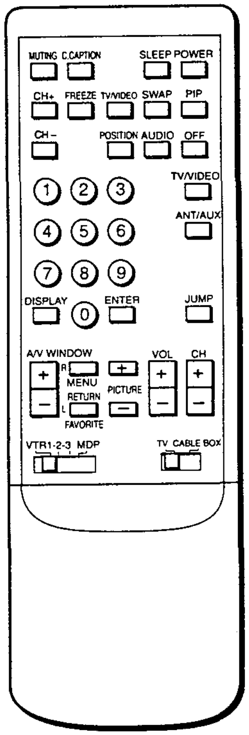
Receivable channels for this projection TV
VHF: 2 – 13
UHF: 14 – 69
Cable: 1 – 125

To select TV channels without presetting
Press the 0 – 9 buttons and ENTER.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Press MENU.


MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH-
POSITION
AUDIO
OFF
TV/VIDEO
ANT/AUX
DISPLAY
ENTER
JUMP
A/V WINDOW
MENU
RETURN
PICTURE
FAVORITE
VOL
CH
VTR1·2·3
MDP
TV
CABLE BOX

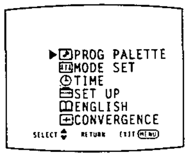
RM-Y115

Erasing TV channels

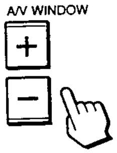
Follow these instructions to erase unnecessary TV channels, so that when you press CH +/–, the channel(s) are skipped.

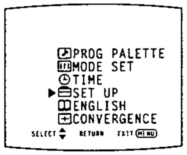
1 Press MENU

The main menu appears.


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT ⬍ RETURN EXIT MENU

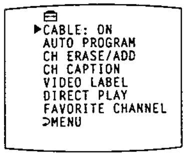
2 Press A/V WINDOW +/– until the cursor points to "SET UP."



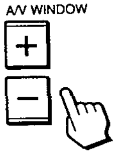

PROG PALETTE
MODE SET
TIME
▶SET UP
ENGLISH
CONVERGENCE
SELECT ⬍ RETURN EXIT MENU

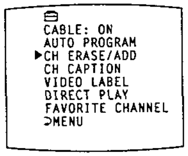
3 Press RETURN

The set up menu appears.


▶CABLE: ON
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

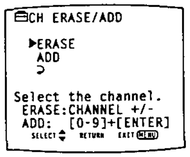
4 Press A/V WINDOW +/– until the cursor points to "CH ERASE/ADD."




CABLE: ON
AUTO PROGRAM
▶CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

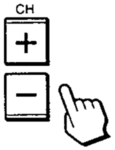
5 Press RETURN.

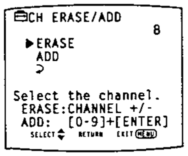
The CH ERASE/ADD screen appears, and the cursor points to "ERASE."


CH ERASE/ADD
▶ERASE
ADD
⊃
Select the channel.
ERASE:CHANNEL +/-
ADD: [0-9]+[ENTER]
SELECT ⬍ RETURN EXIT MENU

6 Press CH +/– to select the channel you want to erase.

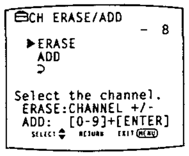
The channel display appears.




CH ERASE/ADD
8
▶ERASE
ADD
⊃
Select the channel.
ERASE:CHANNEL +/-
ADD: [0-9]+[ENTER]
SELECT ⬍ RETURN EXIT MENU

7 Press RETURN.

A "–" sign appears in front of the channel number display, indicating that the channel is erased; then the CH ERASE/ADD screen automatically reappears.


CH ERASE/ADD
- 8
▶ERASE
ADD
⊃
Select the channel.
ERASE:CHANNEL +/-
ADD: [0-9]+[ENTER]
SELECT ⬍ RETURN EXIT MENU

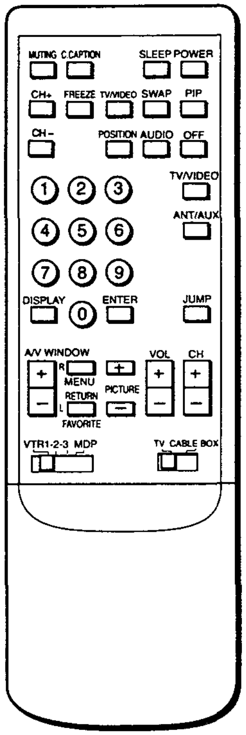
To erase another channel
Repeat steps 6 – 7.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

Note
If you erase a VHF or UHF channel, the same number cable TV channel is also erased (and vice versa).

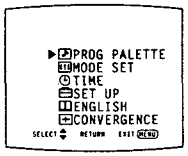

MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
TV/VIDEO
1
2
3
ANT/AUX
4
5
6
7
8
9
DISPLAY
ENTER
JUMP
0
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1·2·3
MDP
TV
CABLE BOX

RM-Y115

Adding TV channels

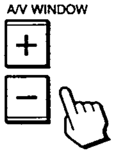
Follow these instructions to add TV channels one by one to the selection memory, or to replace a TV channel you previously erased (pp. 30 – 31).

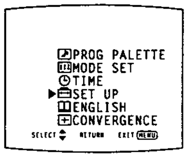
1 Press MENU
The main menu appears.



```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
 CONVERGENCE
SELECT⇕ RETURN EXIT MENU
```

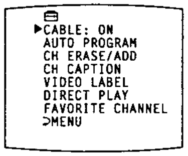
2 Press A/V WINDOW +/– until the cursor points to "SET UP."





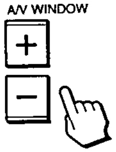
```
 PROG PALETTE
 MODE SET
 TIME
▶SET UP
 ENGLISH
 CONVERGENCE
SELECT⇕ RETURN EXIT MENU
```

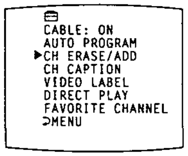
3 Press RETURN.
The set up menu appears.



```
▶CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

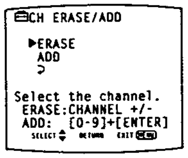
4 Press A/V WINDOW +/– until the cursor points to "CH ERASE/ADD."





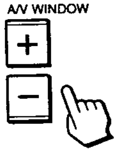
```
 CABLE: ON
 AUTO PROGRAM
▶CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

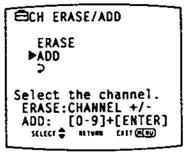
5 Press RETURN.
The CH ERASE/ADD screen appears.



```
CH ERASE/ADD
 ▶ERASE
  ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT⇕ RETURN EXIT MENU
```

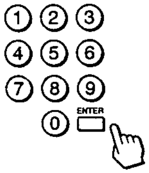
6 Press A/V WINDOW +/– until the cursor points to "ADD."

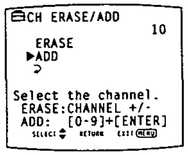




```
CH ERASE/ADD
  ERASE
 ▶ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT⇕ RETURN EXIT MENU
```

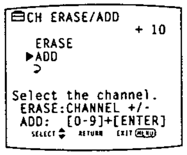
7 Press 0 – 9 and ENTER to select the channel you want to add.
The channel display appears.


1
2
3
4
5
6
7
8
9
0
ENTER



```
CH ERASE/ADD
                10
  ERASE
 ▶ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT⇕ RETURN EXIT MENU
```

8 Press RETURN
A "+" sign appears in front of the channel number display, indicating that the channel is added; then the CH ERASE/ADD screen automatically reappears.



```
CH ERASE/ADD
              + 10
  ERASE
 ▶ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT⇕ RETURN EXIT MENU
```

To add another channel
Repeat steps 7 – 8.

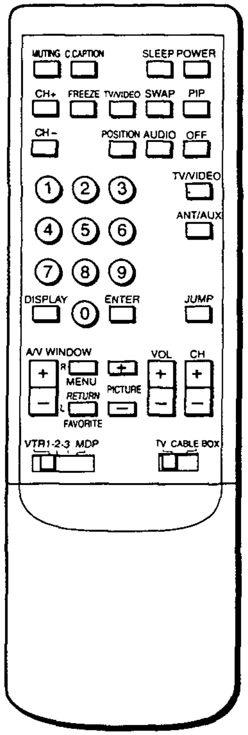
To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

Note
If you add a VHF or UHF channel, the same number cable TV channel is also added (and vice versa).

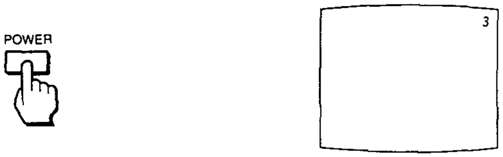
1-7. WATCHING TV PROGRAMS


MUTING
CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH-
POSITION
AUDIO
OFF
TV/VIDEO
ANT/AUX
DISPLAY
ENTER
JUMP
A/V WINDOW
MENU
RETURN
PICTURE
FAVORITE
VOL
CH
VTR1-2-3
MDP
TV
CABLE BOX

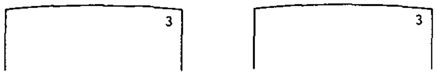
RM-Y115

Make sure that the TV/CABLE BOX selector on the Remote Commander is set to TV, in order to control the projection TV with the Remote Commander.

1 Press POWER to turn on the projection TV.
TIMER/STAND BY indicator blinks until the picture appears.



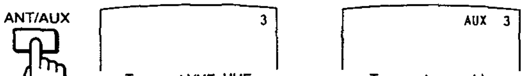
2 Set the cable connection on or off (pp. 26 – 27) to select the type of channel you want to watch, VHF/UHF or cable TV.



To watch VHF or UHF channels

To watch cable TV channels

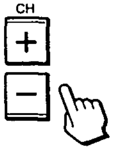
Press ANT/AUX to select the type of channel you want to preset, VHF/UHF/regular cable TV, or pay cable TV connected to the AUX (auxiliary) terminal (except for KP-41EXR96).


ANT/AUX
3
AUX 3

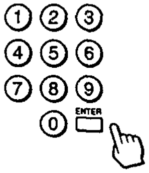
To preset VHF, UHF or regular cable TV channels

To preset pay cable TV channels

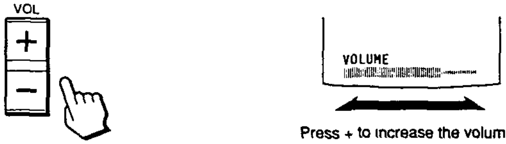
3 Select a channel in one of the following two ways:
To scan the preset channels in numerical sequence, press CH +/–



To select a channel directly, press 0 – 9 and then ENTER.
For example, to select channel 10, press 1, 0 and ENTER.



4 Press VOL +/– to adjust the volume.



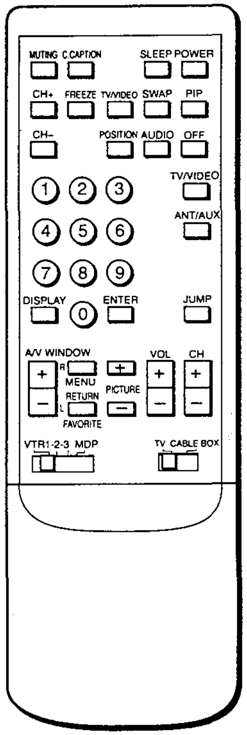
Press + to increase the volume.
Press – to decrease the volume.

If VIDEO 1, VIDEO 2 or VIDEO 3 appears on the screen
Press TV/VIDEO until a TV channel number appears.

To select channels more easily
Set FAVORITE CHANNEL (pp. 64 – 65).

To turn off the projection TV
Press POWER.

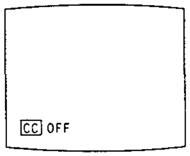
1-8. USING CLOSED CAPTION


MUTING C.CAPTION SLEEP POWER
CH+ FREEZE TV/VIDEO SWAP PIP
CH- POSITION AUDIO OFF
TV/VIDEO
ANT/AUX
1 2 3 4 5 6 7 8 9 0
DISPLAY ENTER JUMP
A/V WINDOW VOL CH
MENU RETURN PICTURE FAVORITE
VTR1·2·3 MDP TV CABLE BOX

RM-Y115

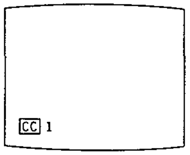
1 Press C. CAPTION.
The closed caption mode appears. CC1, CC2, TEXT1,TEXT2 or CC OFF appears in sequence each time you press C.CAPTION.

$\boxed{\text{CC}}$ OFF → $\boxed{\text{CC}}$ 1 → $\boxed{\text{CC}}$ 2 → TEXT 1 → TEXT 2

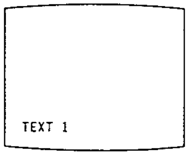


2 Press C.CAPTION repeatedly.

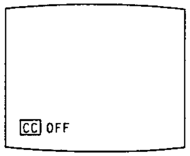
Select CC1 or CC2 to view Captions.
A Caption is a printed version of the dialogue or sound effects of a program.
(The mode should be set to CC1 for most programs.)



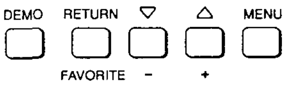
Select TEXT1 or TEXT2 to view Text.
Text is information that is presented using the half to full television screen.
It is usually not related to the program.



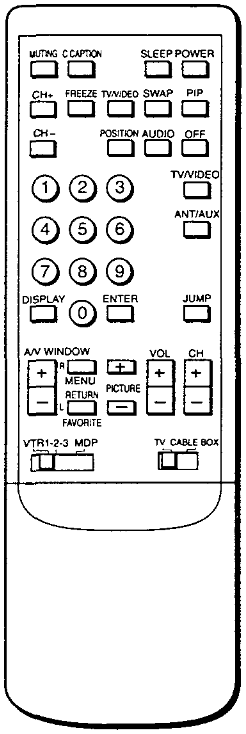
Select CC OFF if you don't want to view Closed Caption nor Text.



1-9. USING CONVENIENT FEATURES


DEMO
RETURN
▽
△
MENU
FAVORITE
-
+

Front inner panel


MUTING C.CAPTION SLEEP POWER
CH+ FREEZE TV/VIDEO SWAP PIP
CH- POSITION AUDIO OFF
TV/VIDEO
ANT/AUX
1 2 3 4 5 6 7 8 9 0
DISPLAY ENTER JUMP
A/V WINDOW VOL CH
MENU RETURN PICTURE FAVORITE
VTR1·2·3 MDP TV CABLE BOX

RM-Y115

Muting the sound — MUTING

Press MUTING.
"MUTING" appears on the screen.

To restore the sound
Press MUTING again, or press VOL +.

Keeping the displays on-screen — DISPLAY

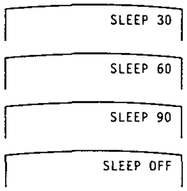
Press DISPLAY.
All the existing displays appear: channel number, channel caption (if set), MTS mode ("SAP" only), window picture input mode, and the current time ("AM" or "PM" disappears after about three seconds).

To turn off the displays
Press DISPLAY again.

Setting the sleep timer — SLEEP

The sleep timer turns off the projection TV automatically after the amount of time you select.

Press SLEEP
Each time you press SLEEP, the time increments "30," "60," "90" and "OFF" mode appear in sequence.


SLEEP 30
SLEEP 60
SLEEP 90
SLEEP OFF

A red "SLEEP" display appears about one minute before the projection TV goes off.

To cancel the setting.
Press SLEEP until OFF mode appears.
A green "SLEEP OFF" display appears for about three seconds.
OR
Turn the projection TV off.
The sleep timer setting is cancelled.

Switching quickly between two channels — JUMP

Use this function to keep track of two programs alternately.

To recall the channel you were watching previously
Press JUMP

To switch back to the first channel
Press JUMP again.

Previewing the features — DEMO

Press DEMO (front inner panel).
Functions and menus are displayed one by one.

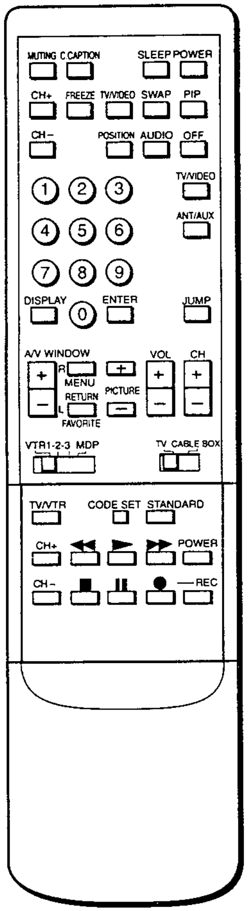
To restart DEMO from the beginning
Press DEMO again.

To stop DEMO
Press any button.

1-10. SELECTING A PICTURE AND SOUND MODE

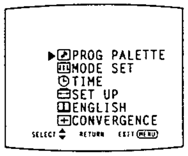
This projection TV features four modes (STANDARD, MOVIE, SPORTS, NEWS) that offer different picture and sound qualities. Choose the one that best suits the type of program that you want to watch.

Example: Select MOVIE mode for picture and sound that gives you the sense of being in a movie theater.

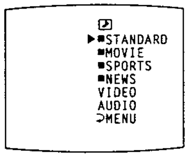

MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
TV/VIDEO
ANT/AUX
1
2
3
4
5
6
7
8
9
DISPLAY
0
ENTER
JUMP
A/V WINDOW
+
–
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX
TV/VTR
CODE SET
STANDARD
CH+
POWER
CH–
REC

(with video control cover open)
RM-Y115

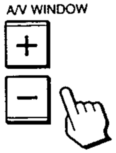
1 Press MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

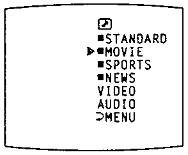

▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

2 Press RETURN.
The program palette menu appears.

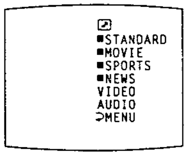

▶■STANDARD
■MOVIE
■SPORTS
■NEWS
VIDEO
AUDIO
⊃MENU

3 Press A/V WINDOW +/– until the cursor points to "MOVIE."




■STANDARD
▶■MOVIE
■SPORTS
■NEWS
VIDEO
AUDIO
⊃MENU

4 Press RETURN.
The "MOVIE" display turns green, indicating that MOVIE mode is selected.


■STANDARD
■MOVIE
■SPORTS
■NEWS
VIDEO
AUDIO
⊃MENU

To select a different mode
Repeat steps 3 – 4.

Selecting standard mode (without using the menus)

Follow these instructions to select standard mode without using the on-screen menus.

Press STANDARD.

When you select STANDARD mode
You receive standard picture and sound quality. Any video or audio adjustments you made ("Adjusting the Projection TV," pp. 44 – 52) are cancelled and the original factory settings are restored.

When you select MOVIE mode
You receive a finely detailed picture, and a theatrical audio effect.
To further adjust picture and sound qualities, follow the instructions on pp. 44 – 52.

When you select SPORTS mode
You receive a vivid, bright picture, and sound with a sports stadium effect.
To further adjust picture and sound qualities, follow the instructions on pp. 44 – 52.

When you select NEWS mode
Picture noise is reduced, and you receive clear voice reproduction.
To further adjust picture and sound qualities, follow the instructions on pp. 44 – 52.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to "⊃ MENU."
Then press RETURN.

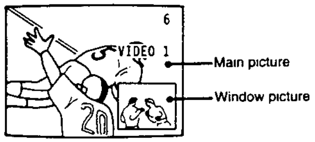
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Press MENU.

1-11. WATCHING TWO PICTURES AT ONCE (PIP)

You can watch both the main picture and a window picture simultaneously, using the Picture-in-Picture (PIP) function.

KP-41EXR96 is equipped with one-tuner PIP To watch two TV channels simultaneously, you must first connect a VCR to the projection TV, which will enable you to watch a second TV channel through the VCR tuner. (See "Connecting Other Equipment," pp. 15 –19.)
Other models are equipped with two-tuner PIP, allowing you to watch two TV channels at once.


6
VIDEO 1
Main picture
Window picture

Picture-in-Picture special features
When watching the main picture and a window picture, you can:

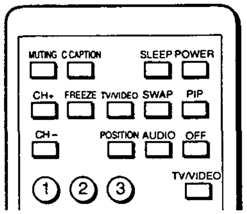
- Swap the main and window pictures (SWAP).
- Change the position of the window picture (POSITION).
- Display a still picture (FREEZE).
- Choose the sound from the main or window picture (AUDIO).

Notes

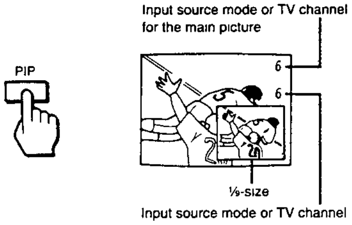
- The window picture sound is also output from the AUDIO (VAR) OUT jacks. The AUDIO OUT and MONITOR OUT jacks output the main picture sound only.
- The video label and channel caption will not appear with the window picture even if you have set them.
- If you select a blocked channel in the window picture, the display "BLOCKED" appears with the window picture. (See "Setting CHANNEL BLOCK," pp. 62 – 63.)

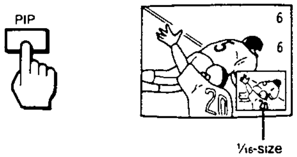
Displaying a window picture

Remote Commander


MUTING
CCAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
①
②
③
TV/VIDEO

Press PIP to display a window picture


Input source mode or TV channel for the main picture
PIP
6
6
⅑-size
Input source mode or TV channel for the window picture


PIP
6
6
¹⁄₁₆-size

A window picture appears in the last mode you watched.
Each time you press PIP, a 1/9 or 1/16 size window picture appears alternately.

To turn PIP function off
Press OFF
The window picture disappears.

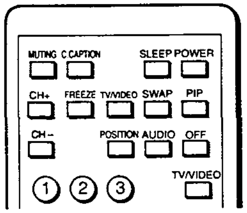
To receive the window picture sound
Press AUDIO.

The ♪ display appears for a few seconds, indicating that the window picture sound is being received.

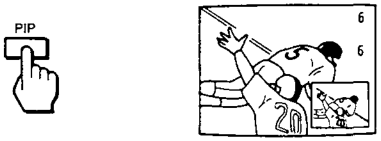
To restore the main picture sound
Press AUDIO again.

Changing the window picture input mode

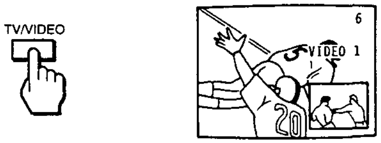
Remote Commander


MUTING
CCAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
①
②
③
TV/VIDEO

1 Press PIP to display a window picture.



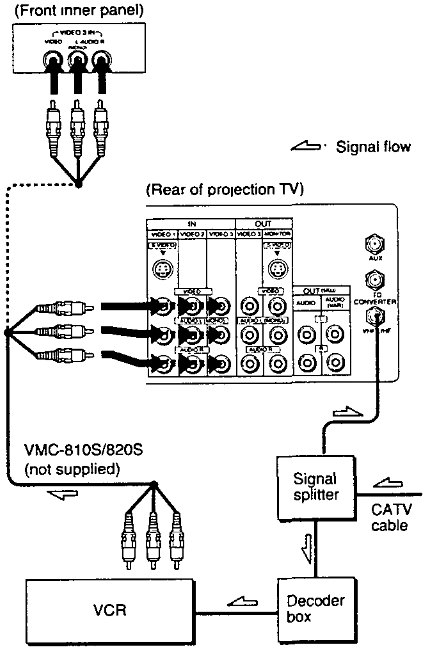
2 Press TV/VIDEO in the Picture-in-Picture control area to select the input mode.
Each time you press TV/VIDEO, "TV," "VIDEO 1," "VIDEO 2" and "VIDEO 3" appear in sequence.


TV/VIDEO
6
VIDEO 1

To change TV channels in the window picture
Press CH +/– in the PIP control area.

Displaying CATV input as a window picture

To use Picture-in-Picture with pay cable TV input, make the connections to your cable converter box as shown below.


(Front inner panel)
Signal flow
(Rear of projection TV)
IN
OUT
AUX
TO CONVERTER
VHF/UHF
VMC-810S/820S (not supplied)
Signal splitter
CATV cable
VCR
Decoder box

After making the above connections, turn the cable connection on by following the steps on pp. 26 – 27; then continue with the steps below.

1–2 Follow steps 1 – 2 in "Changing the window picture input mode" on this page to select the video input mode for your connected VCR.

3 Put your VCR on an inactive channel (channel 3 or 4).

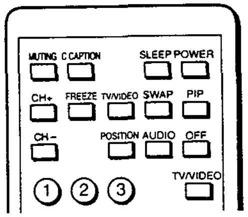
4 Change pay cable TV channels with the decoder box.

To control your cable converter box with the supplied Remote Commander
See p. 70.

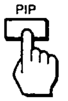
Changing the position of the window picture

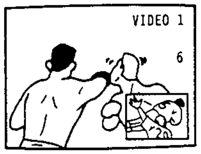
Follow these instructions to change the position of the window picture on the screen.

Remote Commander

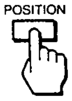

MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
1
2
3
TV/VIDEO

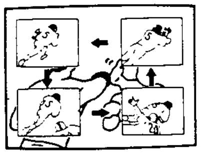
1 Press PIP to display a window picture.





2 Press POSITION.
Each time you press POSITION, the window picture moves as illustrated.

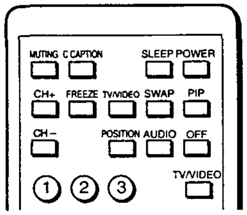




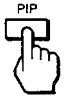
Displaying a still picture

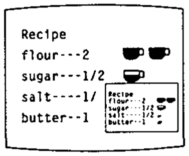
Use the FREEZE function to display a still picture. This function is useful when you want to write down a recipe from a cooking program, a displayed address or phone number and so on.

Remote Commander

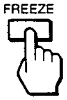

MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
1
2
3
TV/VIDEO

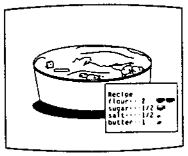
1 Press PIP to display a window picture.




Recipe
flour---2
sugar---1/2
salt----1/
butter--1

2 Press FREEZE.
The window picture image remains still on the screen.



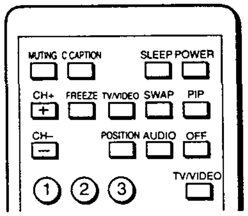


To restore the normal picture
Press FREEZE again.

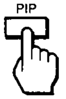
Swapping the main and window pictures

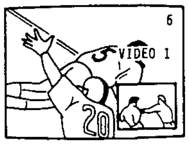
Follow these instructions to swap the input signals of the main and window pictures.

Remote Commander

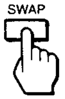

MUTING
C.CAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
1
2
3
TV/VIDEO

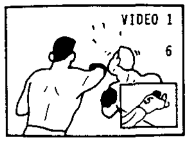
1 Press PIP to display a window picture.





2 Press SWAP
Each time you press SWAP the images from the main and window pictures switch places.





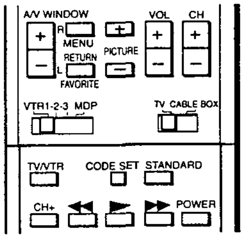
1-12. ADJUSTING THE PROJECTION TV

You can adjust the picture and sound for each input mode (TV, VIDEO 1, VIDEO 2, VIDEO 3) by pressing TV/VIDEO on the projection TV or on the Remote Commander to select the input mode, before making the adjustments. These adjustments are retained in memory even when you turn off the projection TV, but are cancelled after you change the adjustments, or select a picture and sound mode (pp. 38 – 39).

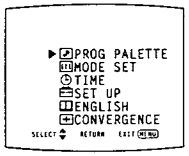
Adjusting the picture

Follow these instructions to adjust PICTURE, HUE, COLOR, BRIGHT (brightness) and SHARP (sharpness).

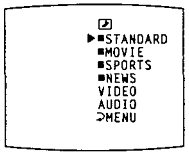
Remote Commander (with video control cover open)


A/V WINDOW
VOL
CH
MENU
RETURN
PICTURE
FAVORITE
VTR1-2-3
MDP
TV CABLE BOX
TV/VTR
CODE SET
STANDARD
CH+
POWER

1 Press MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

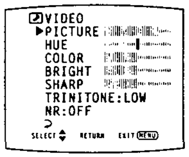

PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

2 Press RETURN.
The program palette menu appears.


STANDARD
MOVIE
SPORTS
NEWS
VIDEO
AUDIO
MENU

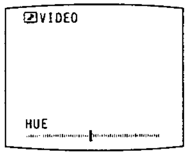
3 Press A/V WINDOW +/– until the cursor points to "VIDEO."

4 Press RETURN.
The VIDEO screen appears.


VIDEO
PICTURE
HUE
COLOR
BRIGHT
SHARP
TRINITONE:LOW
NR:OFF
SELECT
RETURN
EXIT MENU

5 Press A/V WINDOW +/– until the cursor points to the item you want to adjust.

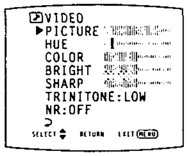
6 Press RETURN.
The adjustment screen appears.



7 Press A/V WINDOW +/– to make the adjustment.

Picture quality	Press A/V WINDOW –	Press A/V WINDOW +
PICTURE	For decreased picture contrast with soft color	For increased picture with vivid color
HUE	Skin tones become purplish	Skin tones become greenish
COLOR	For less color intensity	For more color intensity
BRIGHT	For less brightness	For more brightness
SHARP	For less sharpness	For more sharpness

8 Press RETURN.
The adjustment is complete, and the VIDEO screen automatically reappears.


VIDEO
PICTURE
HUE
COLOR
BRIGHT
SHARP
TRINITONE:LOW
NR:OFF
SELECT
RETURN
EXIT MENU

To adjust other items
Repeat steps 5 – 8.

To restore the factory settings for all the items
Select "STANDARD" on the program palette menu, and press RETURN;
or, press STANDARD on the Remote Commander.
All the items, including TRINITONE (p. 46) and NR (p. 47) return to their original factory settings.

To adjust picture contrast
You can also adjust picture contrast with the PICTURE +/– buttons on the Remote Commander.

Press + to increase picture contrast with vivid color.
Press – to decrease picture contrast with soft color.
The picture adjustment screen appears.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to "⊃ MENU."
Then press RETURN.

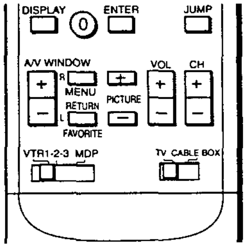
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

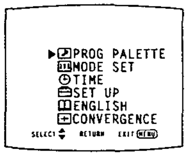
Setting the TRINITONE mode

Color picture tubes are usually manufactured with a fixed color temperature (tint) that determines the "warmth" (red tint) or "coolness" (blue tint) of the picture. Use the Sony Trinitone feature to adjust the picture color to your preference.

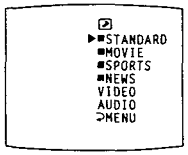
Remote Commander


DISPLAY
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX

1 Press MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

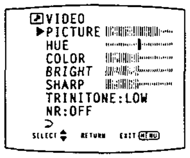

▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

2 Press RETURN.
The program palette menu appears.


▶■STANDARD
■MOVIE
■SPORTS
■NEWS
VIDEO
AUDIO
MENU

3 Press A/V WINDOW +/– until the cursor points to "VIDEO."

4 Press RETURN.
The VIDEO screen appears.


VIDEO
▶PICTURE
HUE
COLOR
BRIGHT
SHARP
TRINITONE:LOW
NR:OFF
SELECT
RETURN
EXIT MENU

5 Press A/V WINDOW +/– until the cursor points to "TRINITONE."

6 Press RETURN.
The mode display turns red.

7 Press A/V WINDOW +/– to select "HIGH" or "LOW."

Select "HIGH" to make the picture cool (bluish).
Select "LOW" to make the picture warm (reddish).

8 Press RETURN.
The setting is complete.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

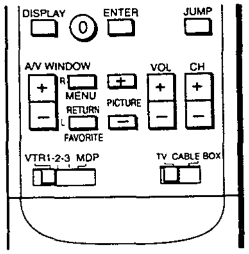
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

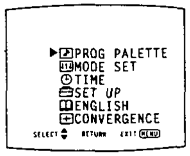
Setting NR (picture noise reduction) ON or OFF

Follow these instructions to reduce picture noise.

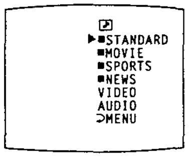
Remote Commander


DISPLAY
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX

1 Press MENU.
The main menu appears, and the cursor points to "PROG PALETTE."


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

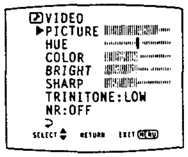
2 Press RETURN.
The program palette menu appears.


▶■STANDARD
■MOVIE
■SPORTS
■NEWS
VIDEO
AUDIO
MENU

3 Press A/V WINDOW +/– until the cursor points to "VIDEO."

4 Press RETURN.
The VIDEO screen appears.

5 Press A/V WINDOW +/– until the cursor points to "NR."


VIDEO
▶PICTURE
HUE
COLOR
BRIGHT
SHARP
TRINITONE:LOW
NR:OFF
SELECT
RETURN
EXIT MENU

6 Press RETURN.
The mode display turns red.

7 Press A/V WINDOW +/– to select "ON" or "OFF."

Select "ON" to reduce picture noise.
Select "OFF" to restore the normal picture.

8 Press RETURN.
The setting is complete.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

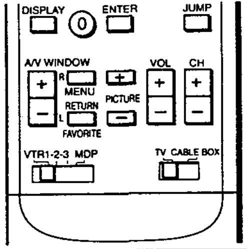
To return to the normal screen
Press MENU.

Setting S-VIDEO ON or OFF

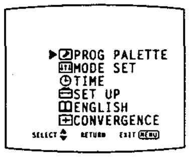
Follow these instructions to set S-VIDEO on or off, depending on the kind of video equipment you have connected to the projection TV. For instructions on connecting video equipment, see pp. 15 – 18.

Note
If the projection TV is in TV, VIDEO 2 or VIDEO 3 mode, the "S-VIDEO" display is shaded and cannot be selected.
Press TV/VIDEO on the projection TV or on the Remote Commander to change to VIDEO 1 mode.

Remote Commander

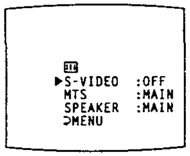

DISPLAY
0
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX

1 Press MENU.
The main menu appears.


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT ⇕ RETURN EXIT MENU

2 Press A/V WINDOW +/– until the cursor points to "MODE SET."

3 Press RETURN.
The mode set menu appears, with the cursor pointing to "S-VIDEO."


▶S-VIDEO :OFF
MTS :MAIN
SPEAKER :MAIN
⊃MENU

4 Press RETURN.
The mode display turns red.

5 Press A/V WINDOW +/– to select "ON" or "OFF."

6 Press RETURN.
The setting is complete.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

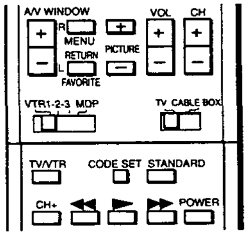
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

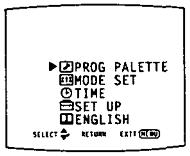
Adjusting the sound

Follow these instructions to adjust the TREBLE, BASS and BALANCE.

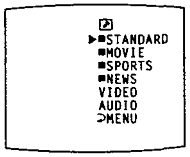
Remote Commander (with video control cover open)


A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX
TV/VTR
CODE SET
STANDARD
CH+
POWER

1 Press MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

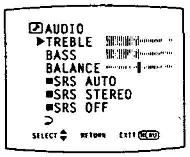

▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
SELECT ⇕ RETURN EXIT MENU

2 Press RETURN.
The program palette menu appears.


▶■STANDARD
■MOVIE
■SPORTS
■NEWS
VIDEO
AUDIO
⊃MENU

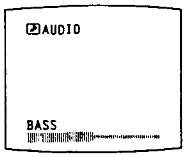
3 Press A/V WINDOW +/– until the cursor points to "AUDIO."

4 Press RETURN.
The AUDIO screen appears.


AUDIO
▶TREBLE
BASS
BALANCE
■SRS AUTO
■SRS STEREO
■SRS OFF
⊃
SELECT ⇕ RETURN EXIT MENU

5 Press A/V WINDOW +/– until the cursor points to the item you want to adjust.

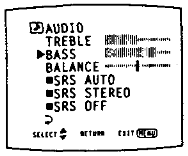
6 Press RETURN.
The adjustment screen appears.



7 Press A/V WINDOW +/– to make the adjustment.

Sound quality	Press A/V WINDOW –	Press A/V WINDOW +
TREBLE	To decrease the treble response	To increase the treble response
BASS	To decrease the bass response	To increase the bass response
BALANCE	To emphasize the left speaker's volume	To emphasize the right speaker's volume

8 Press RETURN.
The adjustment is complete, and the AUDIO screen automatically reappears.


AUDIO
TREBLE
▶BASS
BALANCE
■SRS AUTO
■SRS STEREO
■SRS OFF
⊃
SELECT ⇕ RETURN EXIT MENU

To adjust other items
Repeat steps 5 – 9.

To restore the factory settings for all the items
Select "STANDARD" on the program palette menu, and press RETURN; or, press STANDARD on the Remote Commander.
All the items, including SRS mode (p. 50) return to their original factory settings.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

Selecting an SRS (Sound Retrieval System) mode

For lifelike sound reproduction, follow the instructions below to select the SRS mode you prefer.

In SRS AUTO mode, SRS functions in both monaural and stereo modes.

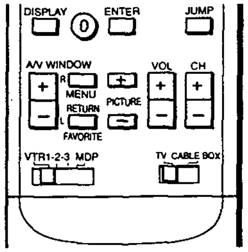
Monaural sound programs will have a 'simulated stereo' effect.

In SRS STEREO mode, SRS functions only when a stereo program is received.

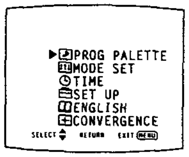
The STEREO lamp on the TV lights up whenever a stereo broadcast is received.

Select SRS OFF mode to return to normal sound mode.

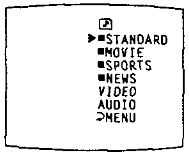
Remote Commander


DISPLAY
ENTER
JUMP
A/V WINDOW
VOL
CH
MENU
RETURN
PICTURE
FAVORITE
VTR1-2-3
MDP
TV CABLE BOX

1 Press MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

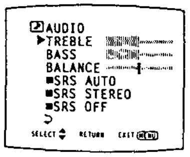

▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

2 Press RETURN.
The program palette menu appears.


▶■STANDARD
■MOVIE
■SPORTS
■NEWS
VIDEO
AUDIO
⊃MENU

3 Press A/V WINDOW +/– until the cursor points to "AUDIO."

4 Press RETURN.
The AUDIO screen appears.


AUDIO
▶TREBLE
BASS
BALANCE
■SRS AUTO
■SRS STEREO
■SRS OFF
⊃
SELECT
RETURN
EXIT MENU

5 Press A/V WINDOW +/– until the cursor points to the SRS mode you want.

6 Press RETURN.
The mode is selected.

To change the SRS mode
Repeat steps 5 – 6.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

Selecting an MTS (Multichannel TV Sound) mode

Follow these instructions to select an MTS mode.

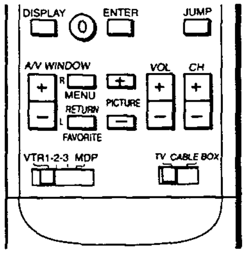
Select MAIN mode to listen to stereo sound.
The STEREO lamp on the projection TV lights up whenever a stereo broadcast is received.

Select SAP mode to listen to Second Audio Programs.

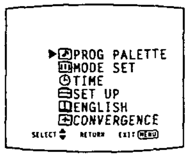
Select MONO mode to eliminate excessive noise during stereo broadcasts, caused by a weak incoming signal.

Note
If the projection TV is in video mode, the "MTS" display is shaded and cannot be selected.
Press TV/VIDEO on the projection TV or on the Remote Commander to change to TV mode.

Remote Commander

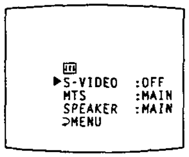

DISPLAY
ENTER
JUMP
A/V WINDOW
VOL
CH
MENU
RETURN
PICTURE
FAVORITE
VTR1-2-3
MDP
TV CABLE BOX

1 Press MENU.
The main menu appears.


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

2 Press A/V WINDOW +/– until the cursor points to "MODE SET."

3 Press RETURN.
The mode set menu appears.


▶S-VIDEO :OFF
MTS :MAIN
SPEAKER :MAIN
⊃MENU

4 Press A/V WINDOW +/– until the cursor points to "MTS."

5 Press RETURN.
The mode display turns red.

6 Press A/V WINDOW +/– to select the mode you want.
Each time you press A/V WINDOW +/–, "MAIN," "SAP" and "MONO" appear in sequence.

7 Press RETURN.
The mode is selected.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

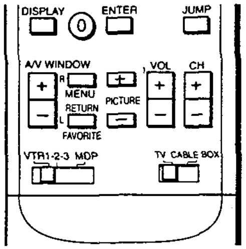
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

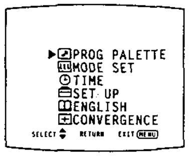
Setting SPEAKER — MAIN or CENTER

Follow these instructions to set SPEAKER to "CENTER" when you connect an audio system (p.19), and to "MAIN" when you want to listen to the sound from the projection TV speakers.

Remote Commander

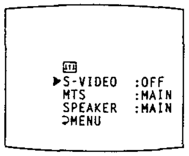

DISPLAY
0
ENTER
JUMP
A/V WINDOW
VOL
CH
+
R
MENU
PICTURE
RETURN
L
–
FAVORITE
VTR1·2·3 MDP
TV CABLE BOX

1 Press MENU.
The main menu appears.


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT ⇕ RETURN EXIT MENU

2 Press A/V WINDOW +/– until the cursor points to "MODE SET."

3 Press RETURN.
The mode set menu appears.


▶S-VIDEO :OFF
MTS :MAIN
SPEAKER :MAIN
⊃MENU

4 Press A/V WINDOW +/– until the cursor points to "SPEAKER."

5 Press RETURN.
The mode display turns red.

6 Press A/V WINDOW +/– to select "MAIN" or "CENTER."

7 Press RETURN.
The setting is complete.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to "⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

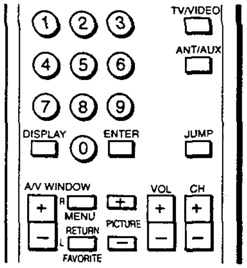
1-13. CUSTOMIZING THE SCREEN DISPLAY

Setting channel captions — CH CAPTION

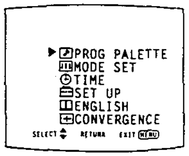
Follow these instructions to caption each channel number display with a name, for instance, the television station call letters. (You can set up to four letters or numbers).

Example: Caption channel 15 as "NBC."

Remote Commander

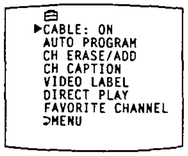

1
2
3
TV/VIDEO
4
5
6
ANT/AUX
7
8
9
DISPLAY
0
ENTER
JUMP
A/V WINDOW
VOL
CH
+
R
MENU
PICTURE
RETURN
L
–
FAVORITE

1 Press MENU.
The main menu appears.


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT ⇕ RETURN EXIT MENU

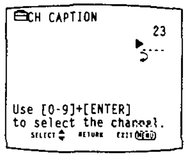
2 Press A/V WINDOW +/– until the cursor points to "SET UP"

3 Press RETURN.
The set up menu appears.


▶CABLE: ON
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

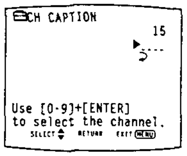
4 Press A/V WINDOW +/– until the cursor points to "CH CAPTION."

5 Press RETURN.
The CH CAPTION screen appears.


CH CAPTION
23
▶
⊃- - -
SELECT ⇕ RETURN EXIT MENU

Use [0-9]+[ENTER]
to select the channel.

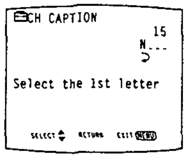
6 Press CH +/–, or press 1, 5 and ENTER to set channel "15."


CH CAPTION
15
▶
⊃- - -
SELECT ⇕ RETURN EXIT MENU

Use [0-9]+[ENTER]
to select the channel.

7 Press RETURN.
The first caption space turns red.

8 Press A/V WINDOW +/– to select "N."
Each time you press A/V WINDOW +/–, "0" – "9," "A" – "Z," "&," "/," "-" and "_" (blank space) appear in sequence.


CH CAPTION
15
N- - -
⊃
SELECT ⇕ RETURN EXIT MENU

Select the 1st letter

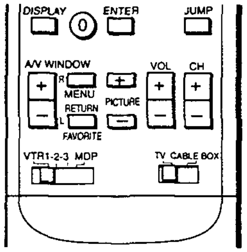
9 Press RETURN.
The second caption space turns red.

(Continued)

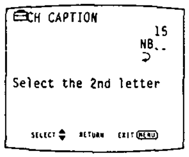
Setting channel captions – CH CAPTION

(Cont'd. from prev. page)

Remote Commander

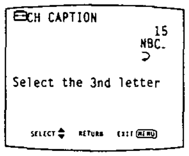

DISPLAY
ENTER
JUMP
A/V WINDOW
VOL
CH
R
MENU
RETURN
PICTURE
L
FAVORITE
VTR1-2-3 MDP
TV CABLE BOX

10 Press A/V WINDOW +/– to select "B."


CH CAPTION
15
NB._.
⊃
Select the 2nd letter
SELECT ⬍ RETURN EXIT MENU

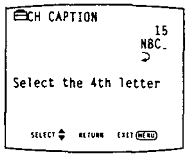
11 Press RETURN.
The third caption space turns red.

12 Press A/V WINDOW +/– to select "C."


CH CAPTION
15
NBC_
⊃
Select the 3nd letter
SELECT ⬍ RETURN EXIT MENU

13 Press RETURN.
The fourth caption space turns red.

14 Press A/V WINDOW +/– to select a blank space.


CH CAPTION
15
NBC_
⊃
Select the 4th letter
SELECT ⬍ RETURN EXIT MENU

15 Press RETURN.
The setting is complete.
When you select or display the channel number, the channel caption also appears.

To caption more channels
Repeat steps 6 – 15.

To erase unnecessary captions
Display the CH CAPTION screen, select the channel with the caption you want to erase, and select blank spaces for the channel caption; then press RETURN.
The caption for that channel is erased.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

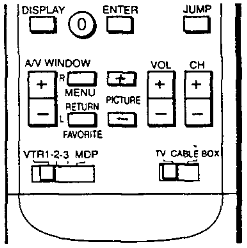
Note
You can set up to 32 channel captions. If the memory is full, "The memory is full, sorry" appears on the screen. Erase any unnecessary captions, and begin again.

Setting VIDEO LABEL

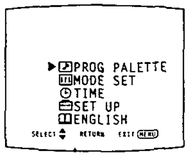
Follow these instructions to label each input mode, in order to identify the equipment connected to each input terminal.

Example: Label VIDEO 1 IN as "VHS."

Remote Commander

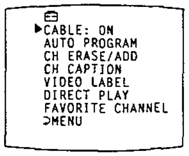

DISPLAY
ENTER
JUMP
A/V WINDOW
VOL
CH
R
MENU
RETURN
PICTURE
L
FAVORITE
VTR1-2-3 MDP
TV CABLE BOX

1 Press MENU.
The main menu appears.


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
SELECT ⬍ RETURN EXIT MENU

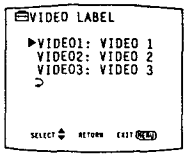
2 Press A/V WINDOW +/– until the cursor points to "SET UP."

3 Press RETURN.
The set up menu appears.


▶CABLE: ON
AUTO PROGRAM
CH ERASE/ADD
CH CAPTION
VIDEO LABEL
DIRECT PLAY
FAVORITE CHANNEL
⊃MENU

4 Press A/V WINDOW +/– until the cursor points to "VIDEO LABEL."

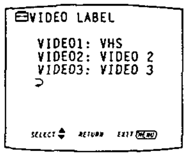
5 Press RETURN.
The VIDEO LABEL screen appears.


VIDEO LABEL
▶VIDEO1: VIDEO 1
VIDEO2: VIDEO 2
VIDEO3: VIDEO 3
⊃
SELECT ⬍ RETURN EXIT MENU

6 Press A/V WINDOW +/– until the cursor points to the input mode you want to label. (In this case, the cursor is already pointing to "VIDEO 1.")

7 Press RETURN.
The label display turns red.

8 Press A/V WINDOW +/– to select "VHS."


VIDEO LABEL
VIDEO1: VHS
VIDEO2: VIDEO 2
VIDEO3: VIDEO 3
⊃
SELECT ⬍ RETURN EXIT MENU

Each time you press A/V WINDOW +/–, the label changes:

VIDEO 1
VIDEO 1 → BETA → 8mm → VHS → LD → S-VIDEO ↩

VIDEO 2
VIDEO 2 → BETA → 8mm → VHS → LD ↩

VIDEO 3
VIDEO 3 → BETA → 8mm → VHS → LD ↩

9 Press RETURN.
The setting is complete.
When you select or display the video mode, the video label appears.

To label other input modes
Repeat steps 6 – 9.

To change a label
Same as above.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Press MENU.

1-14. USING TIMER-ACTIVATED FUNCTIONS

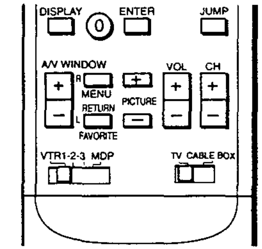
Setting DAYLIGHT SAVING

If you live in an area that uses daylight savings time, set DAYLIGHT SAVING to "YES" or "NO" depending on the season, before setting the current time. At the next daylight savings date, you will be able to automatically adjust all the time-related settings (CURRENT TIME, ON/OFF TIMER and CHANNEL BLOCK) simply by changing the DAYLIGHT SAVING setting.

When setting DAYLIGHT SAVING:

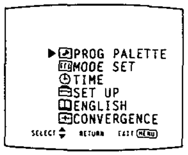
- **After the first Sunday in April (spring daylight savings)**
  Set to "YES" before setting the current time.
  Then, on the last Sunday in October (fall daylight savings), set to "NO."
  All the time-related settings automatically move one hour back.
- **After the last Sunday in October (fall daylight savings)**
  Set to "NO" before setting the current time.
  Then, on the first Sunday in April (spring daylight savings), set to "YES."
  All the time-related settings automatically move one hour ahead.

Remote Commander


DISPLAY
0
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3
MDP
TV CABLE BOX

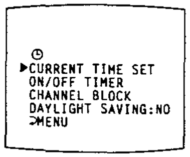
Follow these instructions to set DAYLIGHT SAVING *to* "YES" or "NO."

1 Press MENU.
The main menu appears.


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

2 Press A/V WINDOW +/– until the cursor points to "TIME."

3 Press RETURN.
The time menu appears.


▶CURRENT TIME SET
ON/OFF TIMER
CHANNEL BLOCK
DAYLIGHT SAVING:NO
MENU

4 Press A/V WINDOW +/– *until the cursor points to* "DAYLIGHT SAVING."

5 Press RETURN.
The mode display turns red.

6 Press A/V WINDOW +/– to select "YES" or "NO."

7 Press RETURN.
The setting is complete.

To return to the previous menu
Press A/V WINDOW +/– *until the cursor points to* "⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

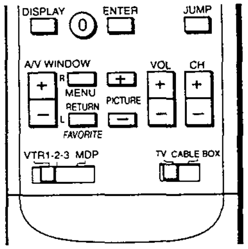
To return to the normal screen.
Press MENU.

Setting the clock — CURRENT TIME SET

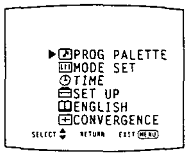
Follow these instructions to set the current time. The correct current time must be set in order to use the other time-related functions (DAYLIGHT SAVING, ON/OFF TIMER, CHANNEL BLOCK).

Example: Set the time to 3:15 PM, Monday.

Remote Commander

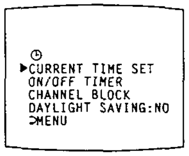

DISPLAY
0
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3
MDP
TV CABLE BOX

1 Press MENU.
The main menu appears.

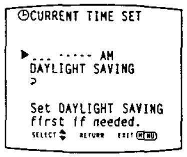

▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT
RETURN
EXIT MENU

2 Press A/V WINDOW +/– until the cursor points to "TIME."

3 Press RETURN.
The time menu appears, and the cursor points to "CURRENT TIME SET."


▶CURRENT TIME SET
ON/OFF TIMER
CHANNEL BLOCK
DAYLIGHT SAVING:NO
MENU

4 Press RETURN again.
The CURRENT TIME SET screen appears, with a reminder to set DAYLIGHT SAVING.


CURRENT TIME SET
▶... ----- AM
DAYLIGHT SAVING
SELECT
RETURN
EXIT MENU

Set DAYLIGHT SAVING first if needed.

If you do not need to set DAYLIGHT SAVING, press RETURN and continue from step 5.

To set daylight saving

a Press A/V WINDOW +/– until the cursor points to "DAYLIGHT SAVING."

b Press RETURN.
The time menu appears, and the cursor points to "DAYLIGHT SAVING."

c Press RETURN.

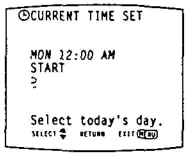
d Press A/V WINDOW +/– to select "YES" or "NO."

e Press RETURN.
The setting is complete.

To set the time, press A/V WINDOW +/– until the cursor points to "CURRENT TIME SET"; press RETURN, then continue from step 5.

5 Press RETURN.
The CURRENT TIME SET screen appears, and the "SUN" display appears (red).

6 Press A/V WINDOW +/– to select "MON."
Each time you press A/V WINDOW +/–, the day changes consecutively.


CURRENT TIME SET
MON 12:00 AM
START
SELECT
RETURN
EXIT MENU

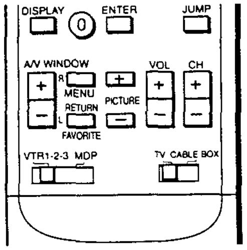
Select today's day.

(Continued)

Setting the clock — CURRENT TIME SET

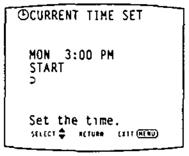
(Cont'd. from prev. page)

Remote Commander


DISPLAY
0
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX

7 Press RETURN.
The hour and am/pm displays turn red.

8 Press A/V WINDOW +/– to set "3:00PM."
Each time you press A/V WINDOW +/–, the hour changes in sequence beginning with "12:00AM."



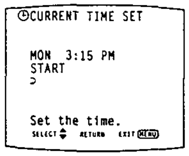
```
ⓒCURRENT TIME SET

 MON  3:00 PM
 START
 ⊃

 Set the time.
```
SELECT ⇕ RETURN EXIT MENU

9 Press RETURN.
The minute display turns red.

10 Press A/V WINDOW +/– to select "15" (minutes).
Each time you press A/V WINDOW +/–, the minutes change in sequence.



```
ⓒCURRENT TIME SET

 MON  3:15 PM
 START
 ⊃

 Set the time.
```
SELECT ⇕ RETURN EXIT MENU

11 Press RETURN.
The cursor points to "START."

12 Check the actual time, and press RETURN to start the clock.
The setting is complete.

To reset the time
Display the CURRENT TIME SET screen and repeat steps 5 - 12.

To display the current time
Press DISPLAY.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to "⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

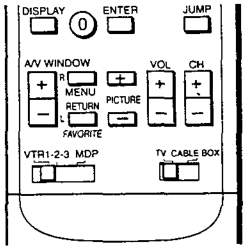
To return to the normal screen.
Press MENU.

Setting the ON/OFF TIMER

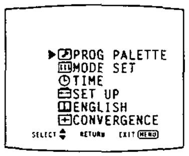
Follow these instructions to make the program of your choice appear on the screen at a specified time.

Example: Set the timer to turn on the projection TV every Monday through Friday at 1:30 AM for 3 hours, on channel 8, as PROGRAM 1. (You can set up to three programs.)

Remote Commander

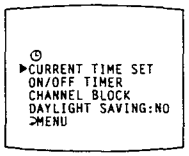

DISPLAY
0
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX

1 Press MENU.
The main menu appears.


▶PROG PALETTE
MODE SET
TIME
SET UP
ENGLISH
CONVERGENCE
SELECT ⇕ RETURN EXIT MENU

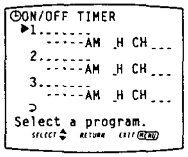
2 Press A/V WINDOW +/– until the cursor points to "TIME."

3 Press RETURN.
The time menu appears.


ⓒ
▶CURRENT TIME SET
ON/OFF TIMER
CHANNEL BLOCK
DAYLIGHT SAVING:NO
⊃MENU

4 Press A/V WINDOW +/– until the cursor points to "ON/OFF TIMER."

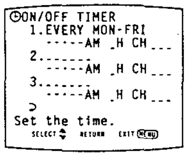
5 Press RETURN.
The ON/OFF TIMER screen appears, and the cursor points to "1."



```
ⓒON/OFF TIMER
 ▶1.-------
     -----AM  _H CH ___
  2.-------
     -----AM  _H CH ___
  3.-------
     -----AM  _H CH ___
  ⊃
 Select a program.
```
SELECT ⇕ RETURN EXIT MENU

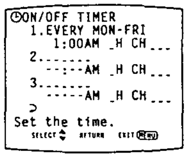
6 To set program 1, press RETURN.
(To set program 2 or 3, press A/V WINDOW +/– until the cursor points to that program; then press RETURN.)
The day input space turns red.

7 Press A/V WINDOW +/– to select "EVERY MON-FRI"; then press RETURN.
Each time you press A/V WINDOW +/–, the days of the week change as shown in Fig. 1 (p. 61).



```
ⓒON/OFF TIMER
  1.EVERY MON-FRI
     -----AM _H CH ___
  2.-------
     -----AM _H CH ___
  3.-------
     -----AM _H CH ___
  ⊃
 Set the time.
```
SELECT ⇕ RETURN EXIT MENU

8 Press A/V WINDOW +/– to select "1:00AM"; then press RETURN.
Each time you press A/V WINDOW +/–, the hour changes in sequence.

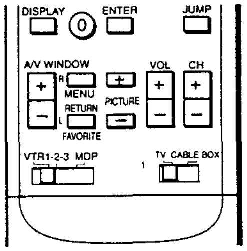


```
ⓒON/OFF TIMER
  1.EVERY MON-FRI
      1:00AM _H CH ___
  2.-------
     --:--AM _H CH ___
  3.-------
     -----AM _H CH ___
  ⊃
 Set the time.
```
SELECT ⇕ RETURN EXIT MENU

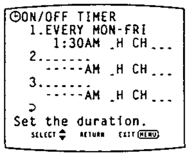
(Continued)

Setting the ON-OFF TIMER *(Cont'd from prev. page)*

Remote Commander

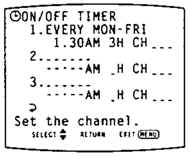

DISPLAY
ENTER
JUMP
0
A/V WINDOW
VOL
CH
R
L
MENU
RETURN
PICTURE
FAVORITE
VTR1-2-3 MDP
TV CABLE BOX
+
–

9 Press A/V WINDOW +/– to select "30" (minutes); then press RETURN.
Each time you press A/V WINDOW +/–, the minutes change in sequence.



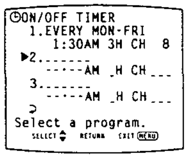
```
ⓒON/OFF TIMER
   1.EVERY MON-FRI
      1:30AM _H CH___
   2.------
     -----AM _H CH___
   3.------
     -----AM _H CH___
   ⊃
 Set the duration.
    SELECT⇕  RETURN  EXIT(MENU)
```

10 Press A/V WINDOW +/– to select "3" (hour duration); then press RETURN.
Each time you press A/V WINDOW +/– the duration changes from "1" – "6" in sequence.



```
ⓒON/OFF TIMER
   1.EVERY MON-FRI
      1.30AM 3H CH___
   2.------
     -----AM _H CH___
   3.------
     -----AM _H CH___
   ⊃
 Set the channel.
    SELECT⇕  RETURN  EXIT(MENU)
```

11 Press A/V WINDOW +/– to select "8" (channel); then press RETURN.
The TIMER/STAND BY lamp lights, indicating that the setting is complete.
Each time you press A/V WINDOW +/–, the channel number changes from 1 – 125 in sequence.



```
ⓒON/OFF TIMER
   1.EVERY MON-FRI
      1:30AM 3H CH  8
  ▶2.------
     -----AM _H CH___
   3.------
     -----AM _H CH___
   ⊃
 Select a program.
    SELECT⇕  RETURN  EXIT(MENU)
```

The display "TIMER WILL BE OFF" appears on the screen one minute before the timer duration ends.

To set program 2 or 3.
Press RETURN and repeat steps 6 – 11.

To erase an ON/OFF TIMER setting
Display the ON/OFF TIMER screen, select the setting you want to erase, and select a blank space for the day.
The ON/OFF TIMER setting is erased.

To enter a new ON/OFF TIMER setting
Display the ON/OFF TIMER screen and repeat steps 6 – 11.

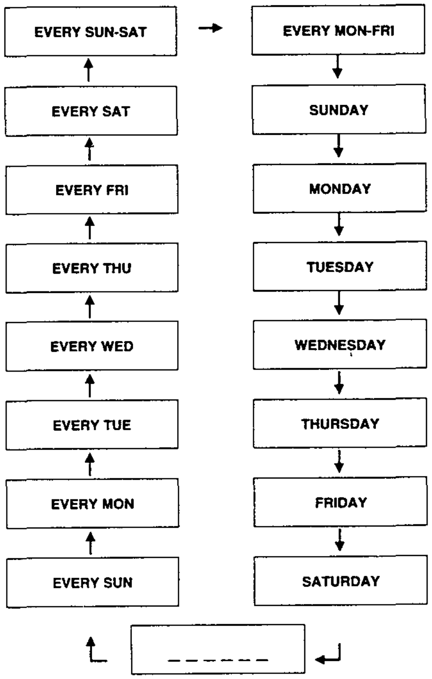
To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Press MENU.

Note
If you unplug the projection TV or a power failure occurs, both the clock and timer settings will be erased. Reset the current time; then set the timer.

Fig. 1
Selecting the day(s) of the week
When you press A/V WINDOW +, the days of the week appear in the following order:


EVERY SUN-SAT
EVERY MON-FRI
SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY

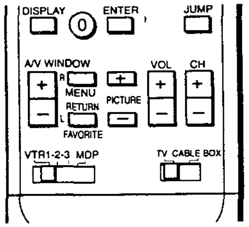
EVERY SUN
EVERY MON
EVERY TUE
EVERY WED
EVERY THU
EVERY FRI
EVERY SAT

Setting CHANNEL BLOCK

Follow these instructions to prevent a channel from appearing on the screen during the time that you specify. You can use this function to prevent children from watching unsuitable programs.

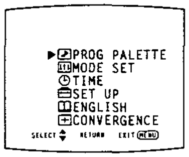
Example: Set CHANNEL BLOCK every Saturday at 4:30 PM for 1 hour, on Channel 12.

Remote Commander



Note
If you have not set the current time, the "CHANNEL BLOCK" display is shaded and cannot be selected.

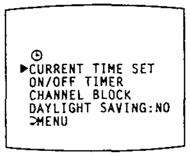
1 Press MENU.
The main menu appears.



```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
 CONVERGENCE
```

2 Press A/V WINDOW +/– until the cursor points to "TIME."

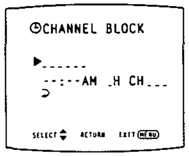
3 Press RETURN.
The time menu appears.



```
▶CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 DAYLIGHT SAVING:NO
 ⊃MENU
```

4 Press A/V WINDOW +/– until the cursor points to "CHANNEL BLOCK."

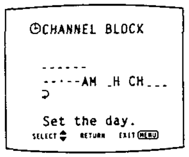
5 Press RETURN.
The CHANNEL BLOCK screen appears, and the cursor points to the day input space.



```
CHANNEL BLOCK

▶------
 --:--AM _H CH___
 ⊃
```

6 Press RETURN.
The day input space turns red.

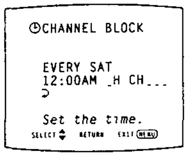


```
CHANNEL BLOCK

 ------
 --:--AM _H CH___
 ⊃

 Set the day.
```

7 Press A/V WINDOW +/– to select "EVERY SAT"; then press RETURN.
Each time you press A/V WINDOW +/–, the days of the week change as shown in Fig. 1 (p. 61).

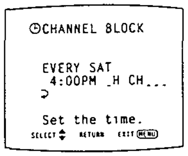


```
CHANNEL BLOCK

 EVERY SAT
 12:00AM _H CH___
 ⊃

 Set the time.
```

8 Press A/V WINDOW +/– to select "4:00PM"; then press RETURN.
Each time you press A/V WINDOW +/–, the hour changes in sequence.

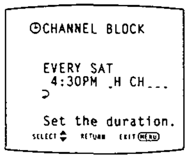


```
CHANNEL BLOCK

 EVERY SAT
  4:00PM _H CH___
 ⊃

 Set the time.
```

9 Press A/V WINDOW +/– to select ":30" (minutes); then press RETURN.
Each time you press A/V WINDOW +/–, the minutes change in sequence.

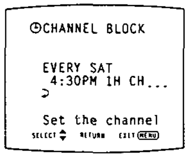


```
CHANNEL BLOCK

 EVERY SAT
  4:30PM _H CH___
 ⊃

 Set the duration.
```

10 Press A/V WINDOW +/– to select "1" (hour duration); then press RETURN.
Each time you press A/V WINDOW +/–, the duration changes from "1" – "6" in sequence.

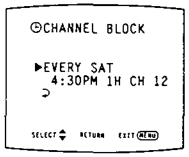


```
CHANNEL BLOCK

 EVERY SAT
  4:30PM 1H CH___
 ⊃

 Set the channel
```

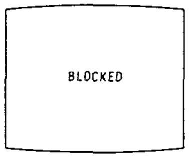
11 Press A/V WINDOW +/– to select "12" (channel); then press RETURN.
The setting is complete.
Each time you press A/V WINDOW +/–, the channel number changes from "1" – "125" in sequence.



```
CHANNEL BLOCK

▶EVERY SAT
  4:30PM 1H CH 12
 ⊃
```

At the specified time, "BLOCKED" appears in red on the screen, and the picture of the specified channel is blocked and the sound is muted.



```
BLOCKED
```

To erase a CHANNEL BLOCK setting
Display the CHANNEL BLOCK screen and select a blank space for the day.
The CHANNEL BLOCK setting is erased.

To enter a new CHANNEL BLOCK setting
Display the CHANNEL BLOCK screen and repeat steps 4 – 10. (You can only set one CHANNEL BLOCK at a time.)

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

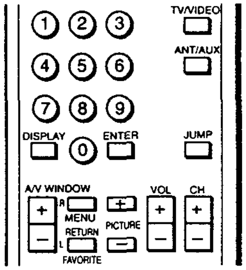
To return to the normal screen.
Press MENU.

Note
If the ON/OFF TIMER is set for an overlapping time (pp. 59 – 61), the later time setting takes precedence. For example, if CHANNEL BLOCK is set for 2:00 PM and ON/OFF TIMER is set for 3:00 PM, ON/OFF TIMER will take effect at 3:00 PM.

1-15. SETTING FAVORITE CHANNEL

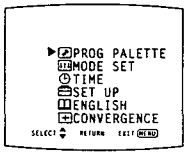
By setting FAVORITE CHANNEL, you can select the channels you use most frequently (up to seven channels) simply by pressing RETURN.

Remote Commander



Follow these instructions to set the channels.

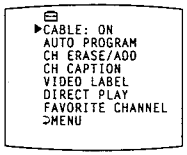
1 Press MENU.
The main menu appears.



```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
 CONVERGENCE
SELECT ⬍  RETURN  EXIT MENU
```

2 Press A/V WINDOW +/– until the cursor points to "SET UP."

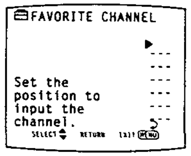
3 Press RETURN.
The set up menu appears.



```
▶CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

4 Press A/V WINDOW +/– until the cursor points to "FAVORITE CHANNEL."

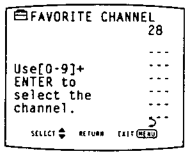
5 Press RETURN.
The FAVORITE CHANNEL screen appears, and the cursor points to the first channel position.



```
FAVORITE CHANNEL
                     ▶
                      ---
                      ---
Set the               ---
position to           ---
input the             ---
channel.              ⊃--
   SELECT ⬍  RETURN  EXIT MENU
```

6 Press A/V WINDOW +/– to select the channel position; then press RETURN.

7 Press 0 – 9 and ENTER to set the channel number.



```
FAVORITE CHANNEL
                     28

                      ---
Use[0-9]+             ---
ENTER to              ---
select the            ---
channel.              ---
                      ⊃--
   SELECT ⬍  RETURN  EXIT MENU
```

8 Press RETURN.
The setting is complete.

To set other channels
Repeat steps 6 – 8.

To erase a favorite channel setting
Press A/V WINDOW +/– until the cursor points to the channel number you want to erase; press RETURN, then press 0 and ENTER.

To reset a favorite channel setting
Display the FAVORITE CHANNEL screen and repeat steps 6 – 8.

To return to the previous menu
Press A/V WINDOW +/– until the cursor points to "⊃ MENU."
Then press RETURN.

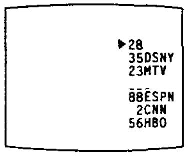
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Press MENU.

Selecting a favorite channel

After setting the channels, follow these instructions to select the channel you want to watch.

1 Press RETURN.
The FAVORITE CHANNEL display appears.

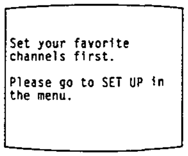


```
▶28
 35DSNY
 23MTV
 ---
 88ESPN
  2CNN
 56HBO
```

Note
If you have set channel captions (pp. 53 – 54), the captions appear with the channel numbers.

2 Press A/V WINDOW +/– to select the channel you want to watch; then press RETURN.
The channel is selected.

If you press RETURN on the Remote Commander before setting FAVORITE CHANNEL, this screen appears.



```
Set your favorite
channels first.
Please go to SET UP in
the menu.
```

Follow steps 1 – 8 to set your favorite channels, and then make the selection.

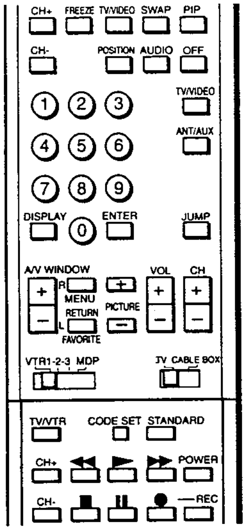
1-16. USING THE PRE-PROGRAMMED REMOTE COMMANDER

You can operate other video equipment (such as VCRs, video disc players and cable boxes) that have an infrared remote detector with this supplied Remote Commander.

Operating Sony video equipment

Follow these instructions to operate Sony video cassette recorders (Beta, 8 mm and VHS) and video disc players (including multi-disc players).

Remote Commander
(with video control cover open)



1 Set the VTR1-2-3 MDP selector according to the video equipment you want to operate.

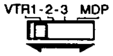


Fig. 2: Video equipment settings

If you want to operate a:	set to:
Beta, ED Beta VCR	VTR 1
8 mm VCR	VTR 2
VHS VCR	VTR 3
Video disc player	MDP

2 Use the video operating buttons to control the connected equipment.

Fig. 3: Operating a VCR (VTR1, 2, 3)	
To turn on or off	Press POWER.
To change channels (when watching TV programs through the VCR's tuner)	Press CH +/–
To record	Press ● and REC simultaneously.
To play	Press ►
To stop	Press ■.
To fast forward	Press ►►
To rewind the tape	Press ◄◄.
To pause	Press ❚❚. *To resume normal playback, press again.*
To search the picture forward and backward	Keep pressing ►► or ◄◄ during playback. *To resume normal playback, release the button.*
To change input mode	Press TV/VTR.

Fig. 4: Operating a Video Disc Player (MDP)	
To turn on or off	Press POWER.
To play	Press ►
To stop	Press ■.
To pause	Press ❚❚. *To resume normal playback, press again.* **Note** This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the projection TV goes off (standby mode) if you press ❚❚.
To search the picture forward and backward	Keep pressing ►► or ◄◄ during playback. *To resume normal playback, release the button.*

Notes

- If the video equipment does not have a certain function, the corresponding button on this Remote Commander will not operate.
- If you set another manufacturer's code to a VTR1-2-3 MDP selector position (pp. 68 – 69), you must also set the Sony code to operate Sony equipment.

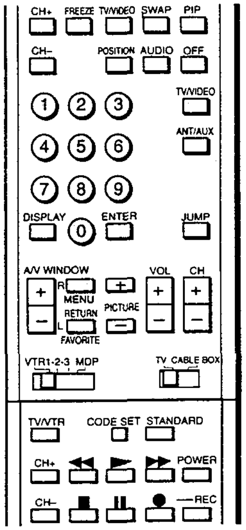
Caution
When you replace the batteries, do so within approximately 30 minutes. Otherwise the settings you made under the Pre-Programmed function (pp. 68 – 70) may be erased.

Operating non-Sony or Sony video equipment

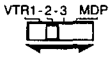
Follow these instructions to set the manufacturer's code, which will enable you to operate non-Sony and Sony video equipment with the pre-programmed Remote Commander.

Example: Operate an RCA video cassette recorder connected to the VIDEO 2 IN jacks.

Remote Commander
(with video control cover open)

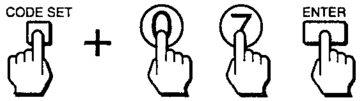

CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
TV/VIDEO
ANT/AUX
DISPLAY
ENTER
JUMP
A/V WINDOW
R
MENU
RETURN
L
FAVORITE
PICTURE
VOL
CH
VTR1-2-3 MDP
TV CABLE BOX
TV/VTR
CODE SET
STANDARD
CH+
POWER
CH–
REC

1 Set the VTR1-2-3 MDP selector to VTR2.



Note
To use another manufacturer's equipment besides a Sony VCR, set the selector to a position not being used for your Sony video equipment.

2 While pressing CODE SET, press 0, 7 and ENTER to set RCA's code number. (For manufacturer code numbers, see Figs. 5, 6 and 7 on p. 69.)


CODE SET
+
0
7
ENTER

3 Use the video operating buttons to operate the connected equipment. (see Fig. 3 on p. 66 and Fig. 4 on p. 67.)

Fig. 5: VCR manufacturer code numbers

MANUFACTURER	CODE
SONY	01, 02, 03
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 08
GOLDSTAR	25
HITACHI	07, 08, 36
JVC	16, 35
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06
PHILIPS	05, 06, 09
QUASAR	05, 06
RCA	07, 08
SAMSUNG	24, 32
SANYO	11, 15
SCOTT	21
SHARP	13, 14
SHINTOM	34
SYLVANIA	05, 06, 09
SYMPHONIC	29
TEKNIKA	28, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

Fig. 6: MDP manufacturer code numbers

MANUFACTURER	CODE
SONY	04
KENWOOD	58
MAGNAVOX	52
MARANZ	54
MITSUBISHI	51
PANASONIC	55
PHILIPS	52
PIONEER	51
RCA	51
SANYO	57
SHARP	56
YAMAHA	53

Fig. 7: Sony Equipment and Code Numbers

SONY EQUIPMENT	CODE
Beta, ED Beta VCR	01
8 mm VCR	02
VHS VCR	03
Video disc player	04

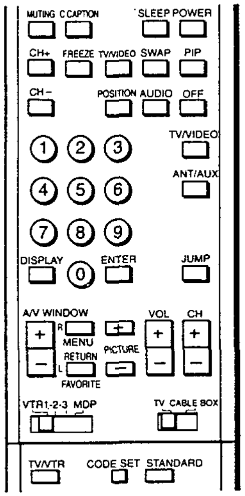
Note
In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied Remote Commander. This is because your equipment may use a code that is not provided with this Remote Commander. In this case, please use the equipment's own remote control unit.

Operating a cable converter box

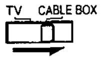
Follow these instructions to set the manufacturer's code, which will enable you to operate a connected cable converter box with the pre-programmed Remote Commander.

Example: Operate a connected Zenith cable converter box.

Remote Commander
(with video control cover open)

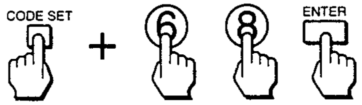

MUTING
CCAPTION
SLEEP
POWER
CH+
FREEZE
TV/VIDEO
SWAP
PIP
CH–
POSITION
AUDIO
OFF
TV/VIDEO
ANT/AUX
1 2 3
4 5 6
7 8 9
DISPLAY
0
ENTER
JUMP
A/V WINDOW
VOL
CH
MENU
RETURN
PICTURE
FAVORITE
VTR1-2-3 MDP
TV CABLE BOX
TV/VTR
CODE SET
STANDARD

1 Set the TV/CABLE BOX selector to CABLE BOX.

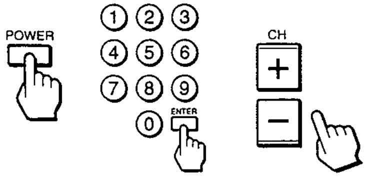

TV
CABLE BOX

Notes
- If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some rare cases, your equipment may use a code that is not provided with this Remote Commander and you may not be able to operate your cable converter box with the supplied Remote Commander. In this case, use the equipment's own remote control unit.

2 While pressing CODE SET, press 6 and 8 (Zenith's code number — see Fig. 8) and ENTER.


CODE SET
+
6
8
ENTER

3 Use the projection TV control buttons (POWER, 0 – 9, ENTER and CH +/–) to operate the cable converter box.


POWER
1 2 3
4 5 6
7 8 9
0
ENTER
CH
+
–

To return to the normal screen
Set the TV/CABLE BOX selector to TV; then use the projection TV control buttons to control the projection TV.

For more details on operating the cable box
Refer to the operating instructions that come with the cable box.

Fig. 8: Cable box manufacturer code numbers

MANUFACTURER	CODE
JERROLD	60, 61, 62, 63, 64, 65
PIONEER	69, 70
SCIENTIFIC ATLANTA	66, 67
TOCOM	71, 72
ZENITH	68

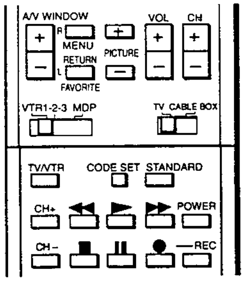
Selecting a VCR mode directly — DIRECT PLAY

Follow these instructions to switch from TV to VCR mode by simply pressing the ► (playback) button on the supplied Remote Commander.

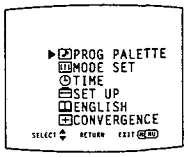
Example: Connect your VCR to the VIDEO 2 IN jacks, and set the VTR1-2-3 MDP selector to VTR2. When you press ►, the input mode changes to the VCR connected to the VIDEO 2 IN jacks.

After completing the steps below, the VTR selector position is retained in the projection TV's memory.

Remote Commander (with video control cover open)


A/V WINDOW
VOL
CH
MENU
RETURN
PICTURE
FAVORITE
VTR1-2-3 MDP
TV CABLE BOX
TV/VTR
CODE SET
STANDARD
CH+
POWER
CH–
REC

1 Press MENU.
The main menu appears.

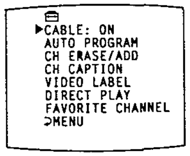


```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
 CONVERGENCE
```

SELECT
RETURN
EXIT MENU

2 Press A/V WINDOW +/– until the cursor points to "SET UP."

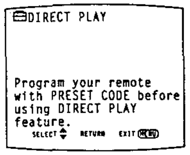
3 Press RETURN.
The set up menu appears.



```
▶CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

4 Press A/V WINDOW +/– until the cursor points to "DIRECT PLAY."

5 Press RETURN.
A message screen appears.



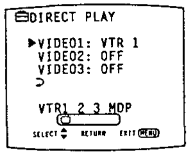
```
DIRECT PLAY

Program your remote
with PRESET CODE before
using DIRECT PLAY
feature.
```

SELECT
RETURN
EXIT MENU

Note
This screen reminds you to set the manufacturer's code, if you have not already done so (pp. 68 – 69).

6 Press RETURN again.
The DIRECT PLAY screen appears.



```
DIRECT PLAY

▶VIDEO1: VTR 1
 VIDEO2: OFF
 VIDEO3: OFF
 ⊃

 VTR1 2 3 MDP
```

SELECT
RETURN
EXIT MENU

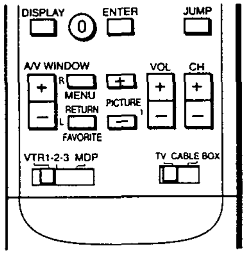
7 Press A/V WINDOW +/– until the cursor points to the video input mode. (When the video equipment is connected to VIDEO 1 IN, select "VIDEO1.")

8 Press RETURN.
The mode display turns red.

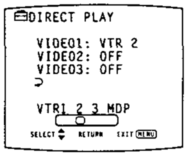
(Continued)

Selecting a VCR mode directly – DIRECT PLAY
(Cont'd. from prev. page)

Remote Commander



9 Press A/V WINDOW +/– to select the VTR selector mode you have set on the Remote Commander. (When the VTR1-2-3 MDP selector is set to VTR2, select "VTR 2.")
Each time you press A/V WINDOW +/–, "VTR 1," "VTR 2," "VTR 3," "MDP" and "OFF" appear in sequence.



```
DIRECT PLAY

  VIDEO1: VTR 2
  VIDEO2: OFF
  VIDEO3: OFF
  ⊃

  VTR1 2 3 MDP
```

10 Press RETURN.
The direct play setting is complete.

To set direct play for other connected video equipment
Repeat steps 7 – 10.

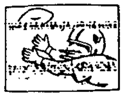
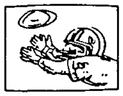
To return to the previous menu
Press A/V WINDOW +/– until the cursor points to " ⊃ MENU."
Then press RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Press MENU.

1-17. TROUBLESHOOTING

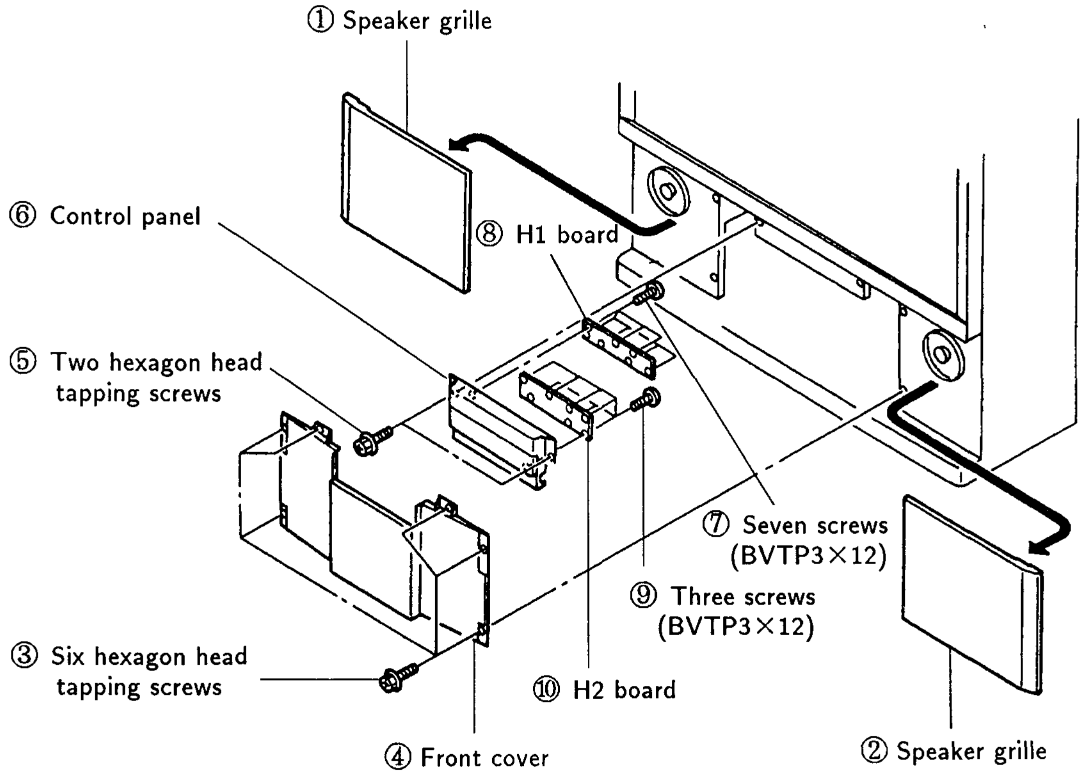
Disturbances in picture and sound can often be eliminated by checking the symptoms and following the suggestions listed here. If the problem still cannot be solved, contact your nearest service facility.

Symptom	Possible causes and remedies
No picture (screen not lit), no sound	• Make sure POWER is switched on. • Check the power cord connection. • Check that the TV/VIDEO and VTR1-2-3 MDP controls are set correctly. • Make sure that the TV/CABLE BOX selector is set to TV.
Poor or no picture (screen not lit), good sound	• Adjust the picture using the VIDEO screen (pp. 44 – 47). • Check the antenna/cable connections. • Adjust the color registration (pp. 24 – 25).
Good picture, no sound	• Press VOLUME + on the projection TV or VOL + on the Remote Commander. • Press MUTING on the Remote Commander. • Check the MTS setting (p. 51). • Check that the TV/VIDEO and VTR1-2-3 MDP controls are set correctly. • Make sure SPEAKER is set correctly (p. 52).
No color for color programs	• Check the HUE and COLOR settings (pp. 44 – 45).
Snow and noise only	• Check that it is an active or correct channel. • Check the cable setting. • Check antenna/cable connections.
 Dotted lines or stripes	This is often caused by local interference (for example, cars, neon signs and hairdryers). Adjust the telescopic aerial for minimum interference.
 Double images or ghosts	Reflections from nearby mountains or buildings often cause this problem. Connecting a highly directional outdoor antenna or a CATV cable may improve the picture.
Remote control does not operate	• Check the battery in the Remote Commander.
No picture and/or sound for the connected equipment	• Check that the TV/VIDEO button is set correctly. • Check that the connections are properly made. • Check that the power of the connected equipment is turned on. • Check that the connected equipment is set correctly.
Try another channel. It could be station trouble.	

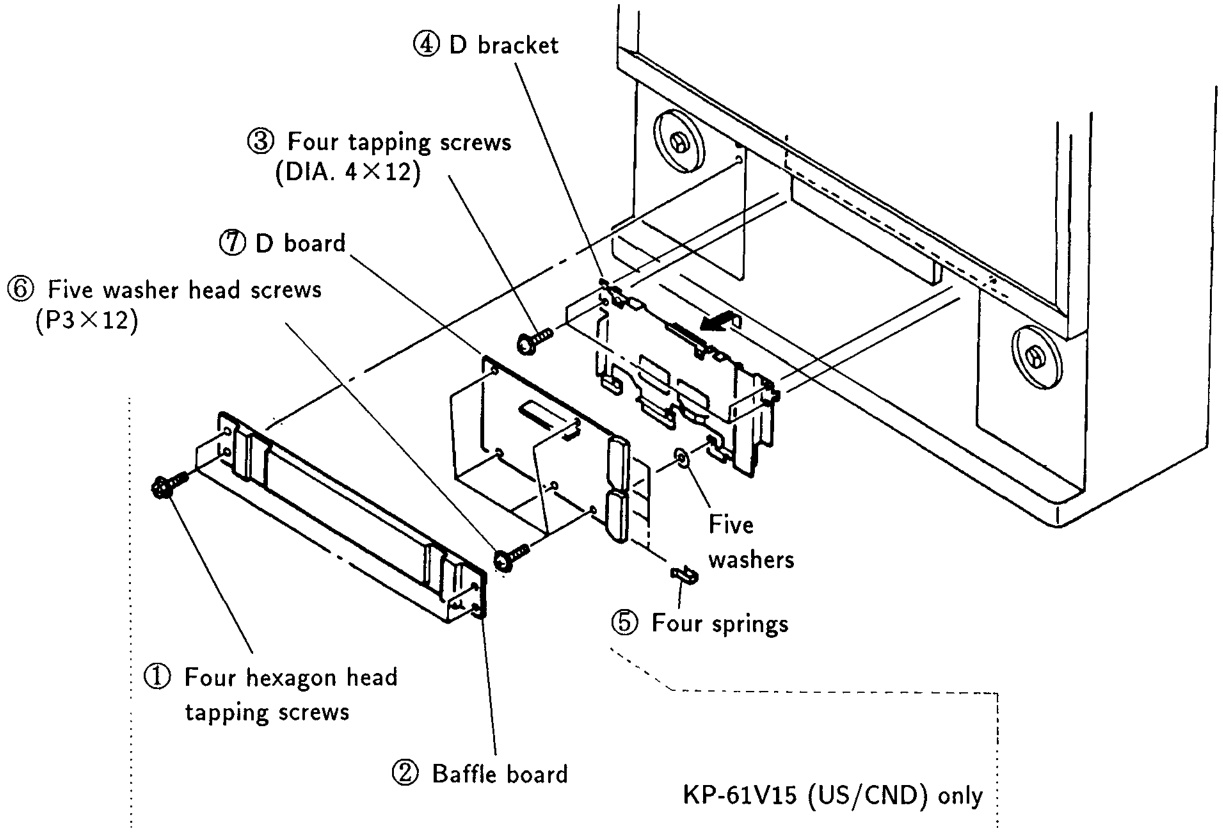
SECTION 2

DISASSEMBLY

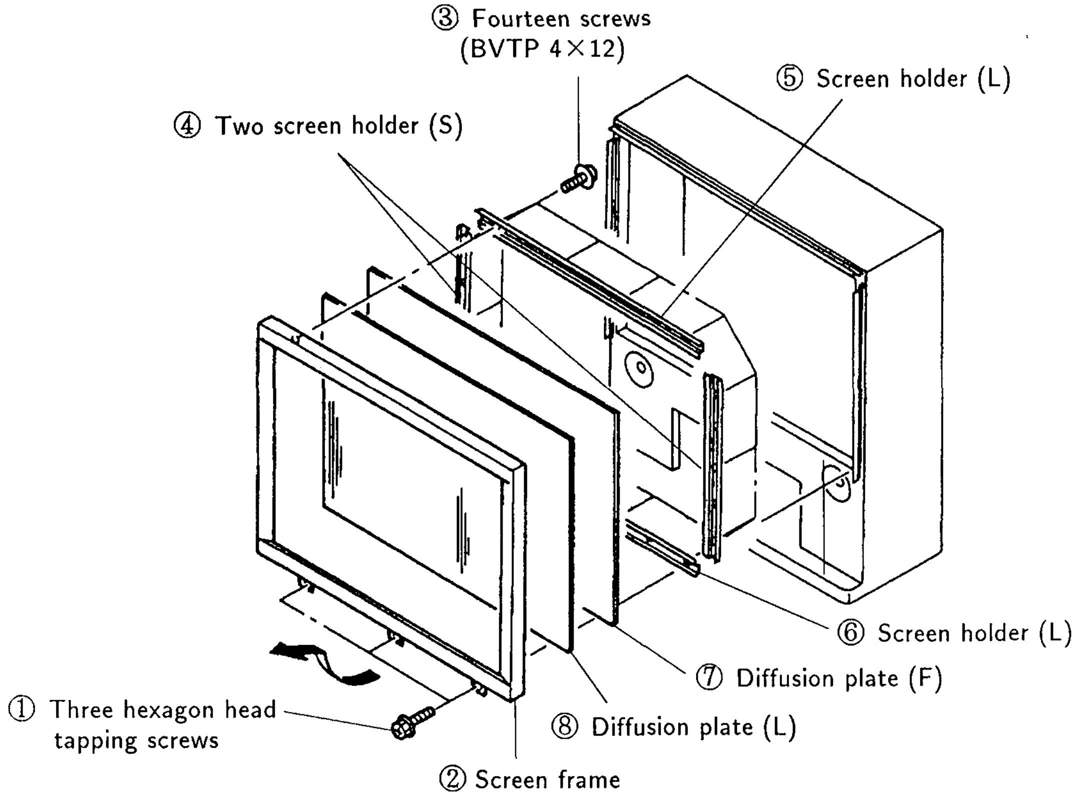
2-1. H1 AND H2 BOARDS REMOVAL


① Speaker grille
⑥ Control panel
⑧ H1 board
⑤ Two hexagon head tapping screws
⑦ Seven screws (BVTP3×12)
⑨ Three screws (BVTP3×12)
③ Six hexagon head tapping screws
⑩ H2 board
④ Front cover
② Speaker grille

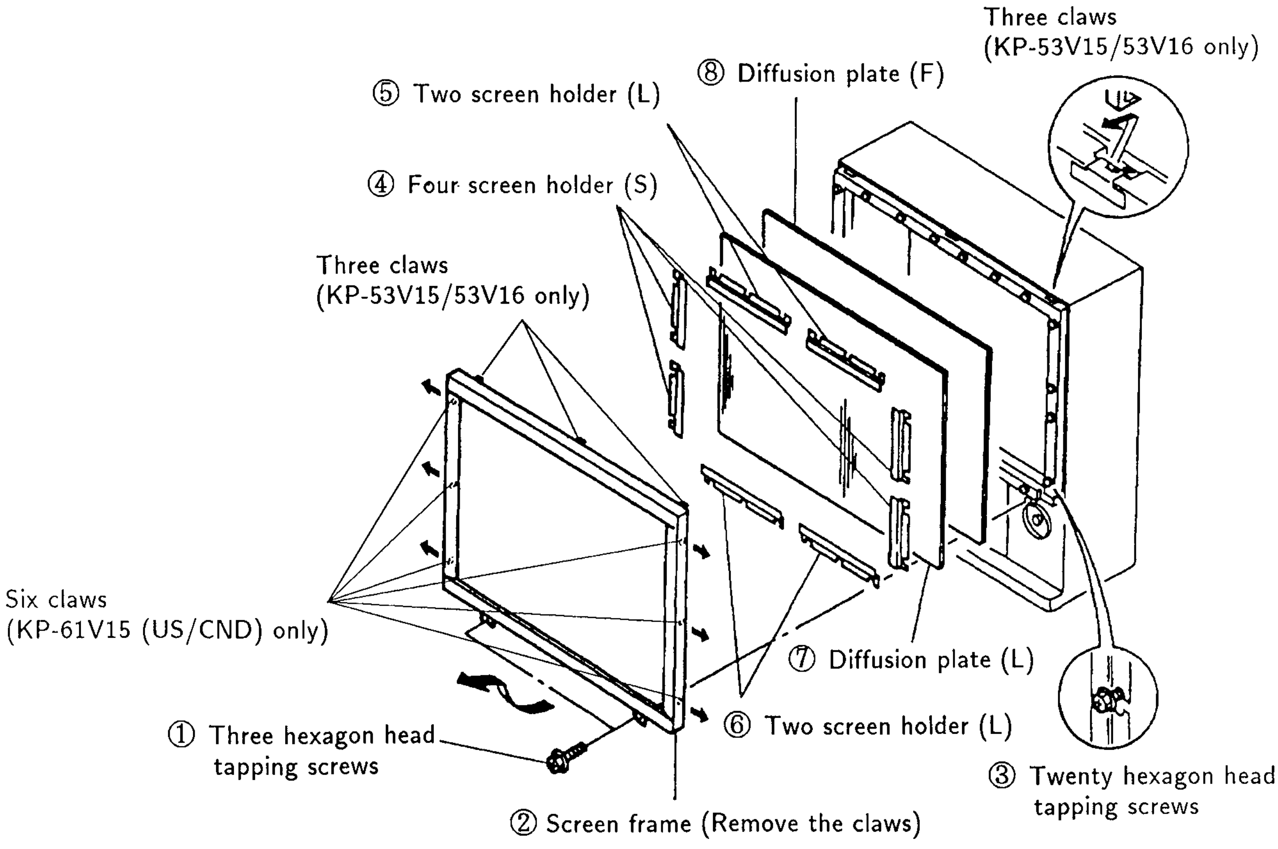
2-2. D BOARD REMOVAL


④ D bracket
③ Four tapping screws (DIA. 4×12)
⑦ D board
⑥ Five washer head screws (P3×12)
Five washers
⑤ Four springs
① Four hexagon head tapping screws
② Baffle board
KP-61V15 (US/CND) only

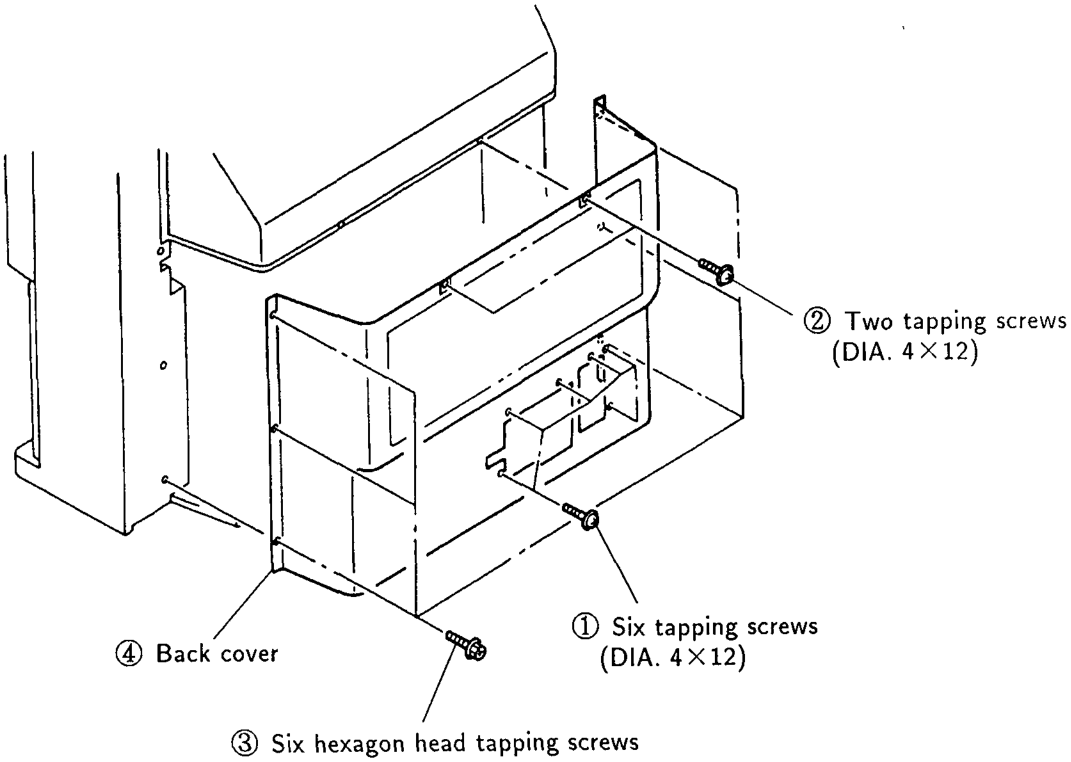
2-3-1. DIFFUSION PLATE REMOVAL (KP-46V15 (US/CND)/46V16 only)


③ Fourteen screws
(BVTP 4×12)
⑤ Screen holder (L)
④ Two screen holder (S)
⑥ Screen holder (L)
⑦ Diffusion plate (F)
① Three hexagon head
tapping screws
⑧ Diffusion plate (L)
② Screen frame

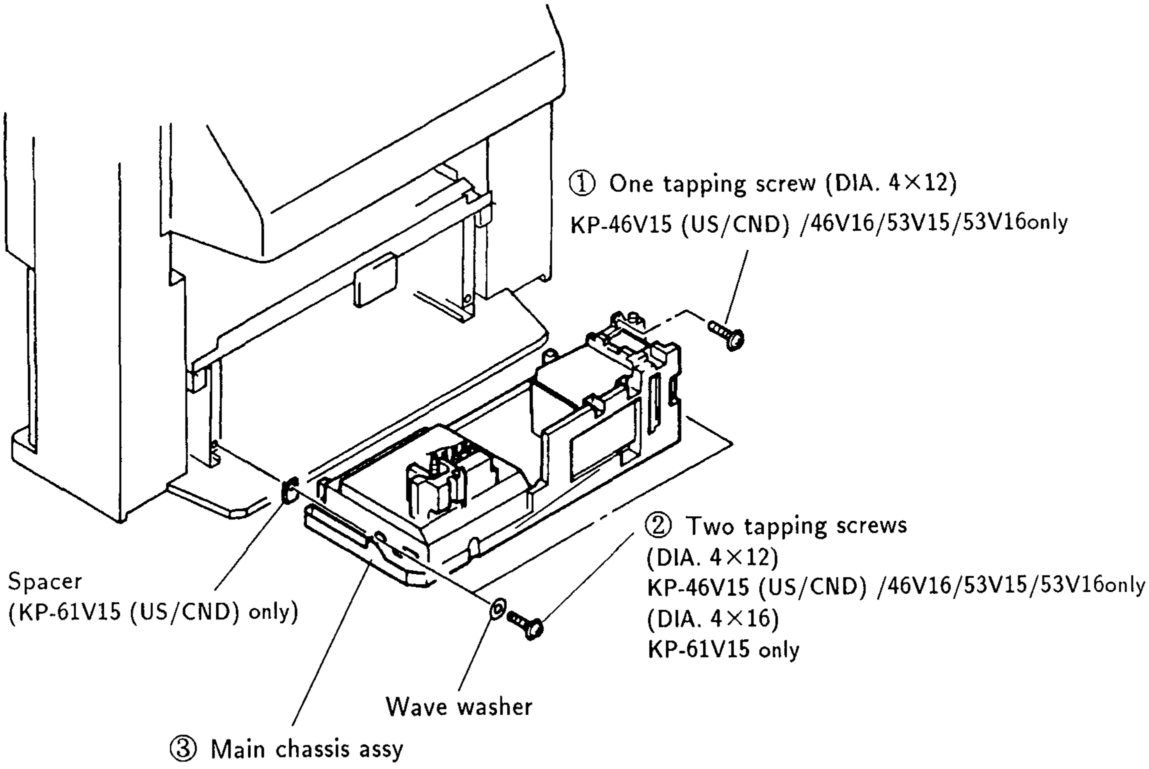
2-3-2. DIFFUSION PLATE REMOVAL (KP-53V15/53V16/61V15 (US/CND) only)


Three claws
(KP-53V15/53V16 only)
⑧ Diffusion plate (F)
⑤ Two screen holder (L)
④ Four screen holder (S)
Three claws
(KP-53V15/53V16 only)
Six claws
(KP-61V15 (US/CND) only)
⑦ Diffusion plate (L)
⑥ Two screen holder (L)
① Three hexagon head
tapping screws
③ Twenty hexagon head
tapping screws
② Screen frame (Remove the claws)

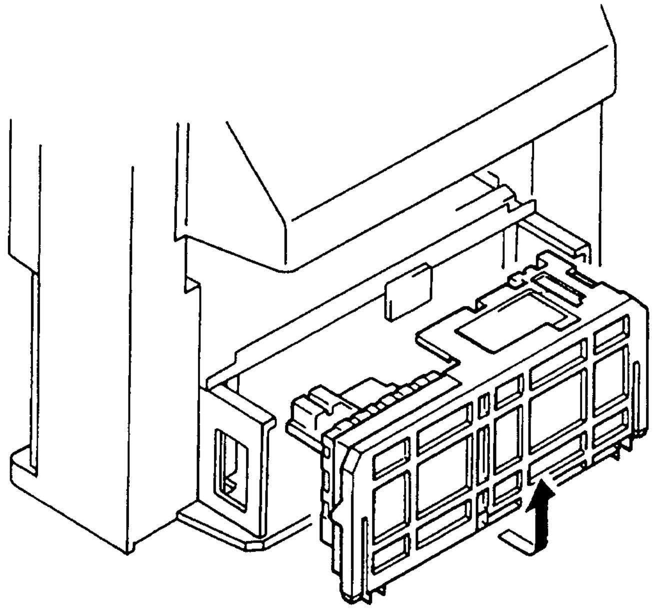
2-4. BACK COVER REMOVAL


② Two tapping screws
(DIA. 4×12)
① Six tapping screws
(DIA. 4×12)
④ Back cover
③ Six hexagon head tapping screws

2-5. MAIN CHASSIS ASSY REMOVAL


① One tapping screw (DIA. 4×12)
KP-46V15 (US/CND) /46V16/53V15/53V16only
② Two tapping screws
(DIA. 4×12)
KP-46V15 (US/CND) /46V16/53V15/53V16only
(DIA. 4×16)
KP-61V15 only
Spacer
(KP-61V15 (US/CND) only)
Wave washer
③ Main chassis assy

2-6. SERVICE POSITION



NOTES INSERTED IN SERVICE POSITION SECTION

Service Position Procedure

(1) Remove the path locks where the harness comes into.
(MAIN bracket, G shield)

(2) Remove the following connectors before removing the main bracket.
* HV grounding lead, G shield grounding lead, uT35 grounding lead (uT board), V-2 connector (V board).

(3) Remove the main bracket. (Take care as the connector leads linking to the C and Z boards are considerably short.)
(MAIN bracket, G shield)

(4) When pulling out the main bracket with power ON, be sure to connect the connectors removed.
* HV grounding lead, G shield grounding lead, uT35 grounding lead (uT board).

In case that grounding lead (Black) of HV Block is not connected with chassis grounding, it causes arcing of CRT and it is dangerous.

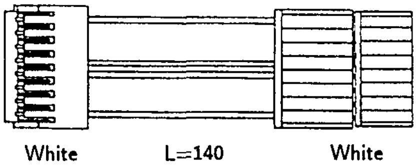
Be sure to connect grounding lead of HV Block with chassis grounding.

CONNECTOR CABLES

※ **In order to put the set in the service position, use the extension connector cables below.**

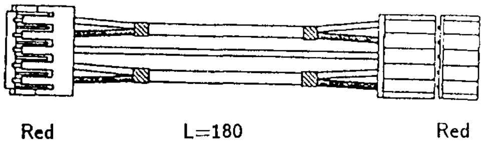
Parts No.	Connection
1-941-897-38	CB-4 (G-4)

1 : Brown
2 : –
3 : –
4 : Yellow
5 : Green
6 : –
7 : –
8 : Gray


White
L=140
White

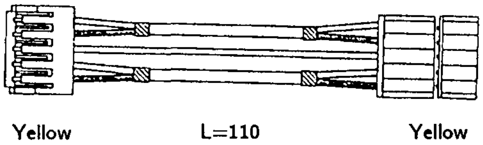
Parts No	Connection
1-941-897-43	CR-15 (A-15)

1 : White/Gray
2 : Gray/Shield
3 : Orange
4 : Red/Gray
5 : Gray/Shield


Red
L=180
Red

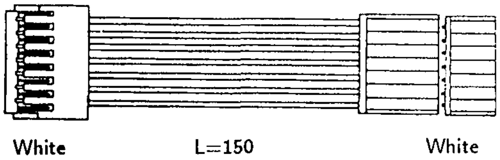
Parts No.	Connection
1-941-897-39	CG-16 (A-16)

1 : White/Gray
2 : Gray/Shield
3 : Orange
4 : Red/Gray
5 : Gray/Shield


Yellow
L=110
Yellow

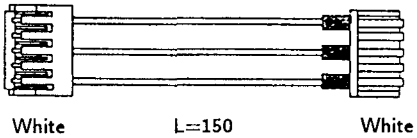
Parts No.	Connection
1-941-897-44	ZR-1 (D-1)

1 : Brown
2 : Red
3 : Orange
4 : Yellow
5 : Green
6 : Blue
7 : Violet


White
L=150
White

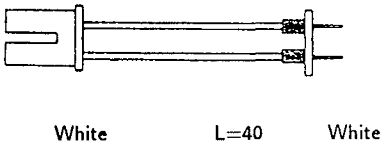
Parts No.	Connection
1-941-897-40	ZG-19 (A-19)

1 : Green
2 : –
3 : Black
4 : –
5 : Brown


White
L=150
White

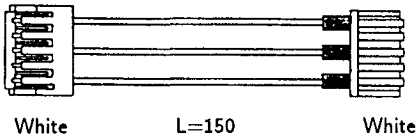
Parts No.	Connection
1-941-897-45	A-21 (CRT BRACKET)

1 : Black
2 : Black


White
L=40
White

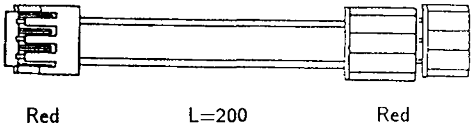
Parts No.	Connection
1-941-897-41	ZR-18 (A-18)

1 : Red
2 : –
3 : Black
4 : –
5 : Brown


White
L=150
White

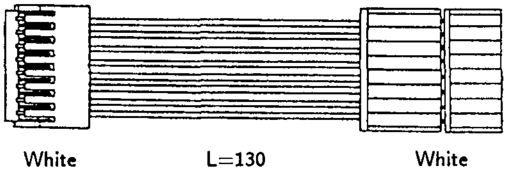
Parts No.	Connection
1-941-897-46	V-2 (ZR-3)

1 : Brown
2 : –
3 : Red


Red
L=200
Red

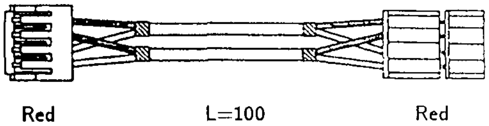
Parts No	Connection
1-941-897-42	ZG-2 (D-2)

1 : –
2 : Red
3 : Orange
4 : Yellow
5 : Green
6 : Blue
7 : Violet
8 : Gray

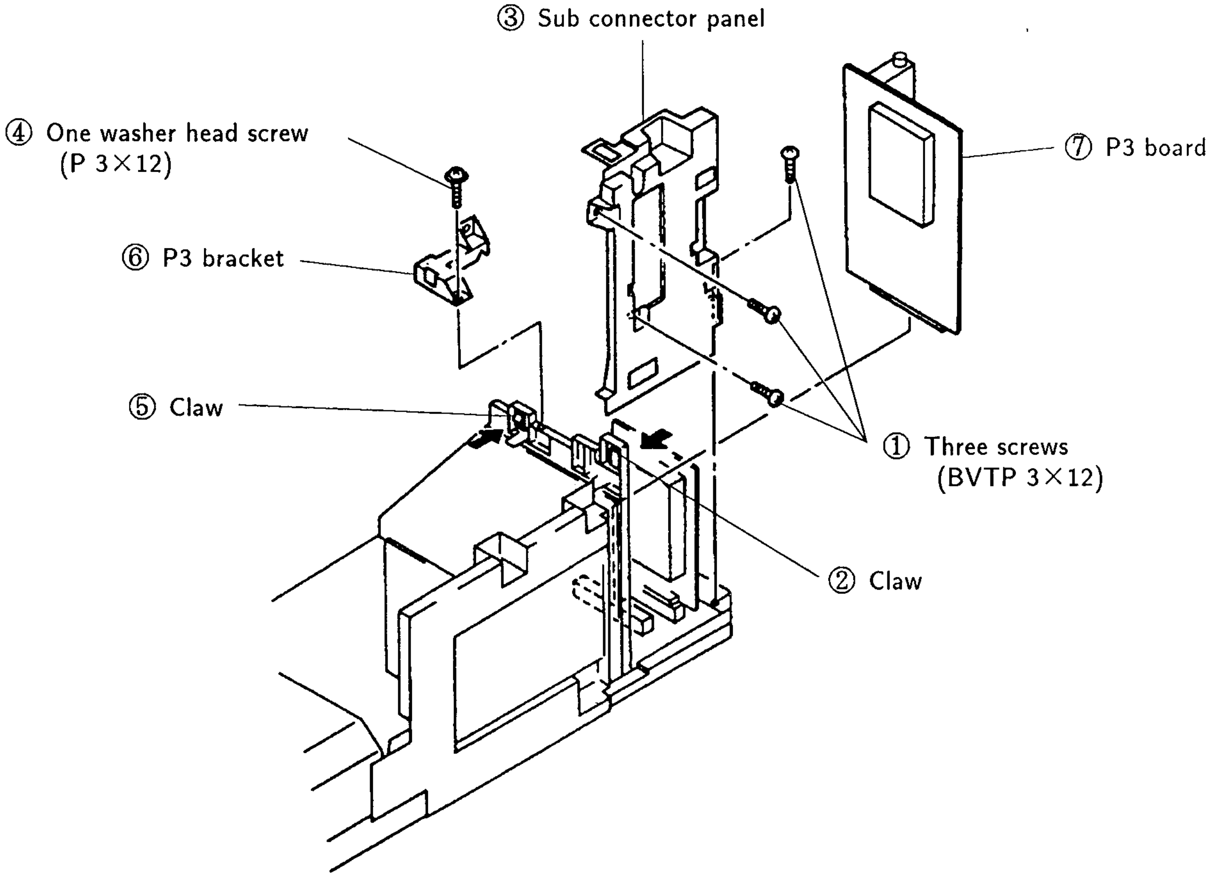

White
L=130
White

Parts No.	Connection
1-941-897-47	A-3 (YG-3)

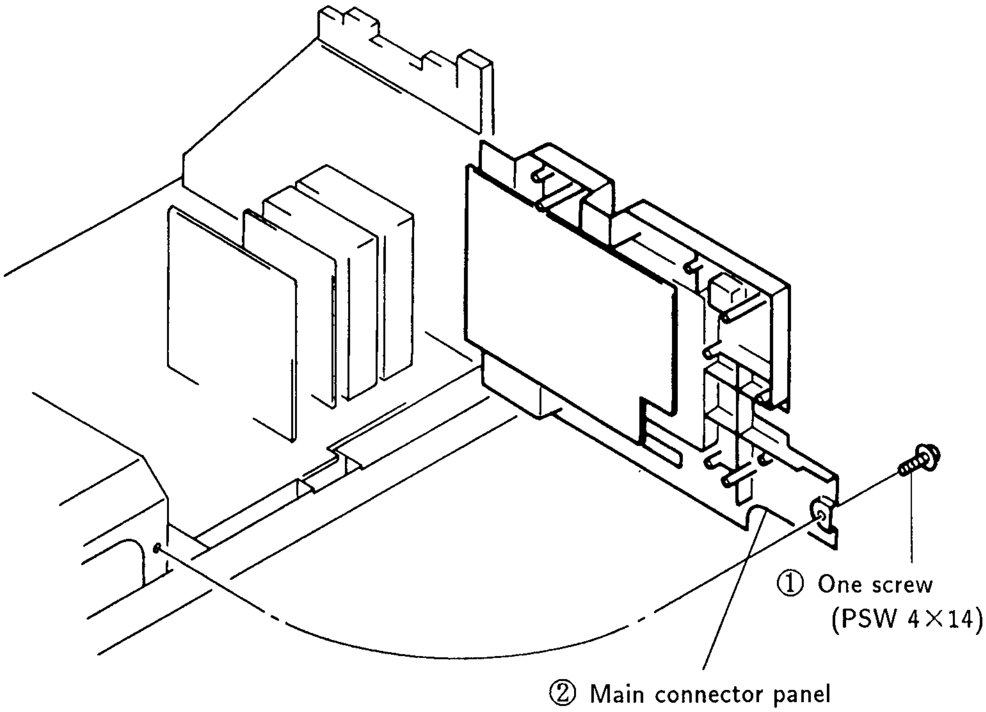
1 : Red
2 : White
3 : Gray/Shield
4 : Black


Red
L=100
Red

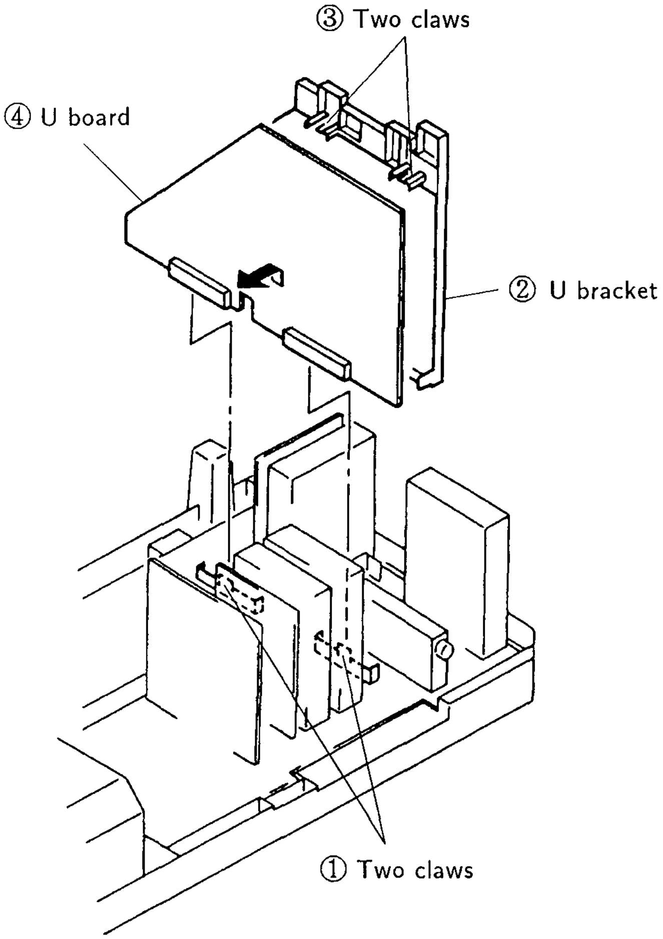
2-7. P3 BOARD REMOVAL


③ Sub connector panel
④ One washer head screw
(P 3×12)
⑥ P3 bracket
⑦ P3 board
⑤ Claw
① Three screws
(BVTP 3×12)
② Claw

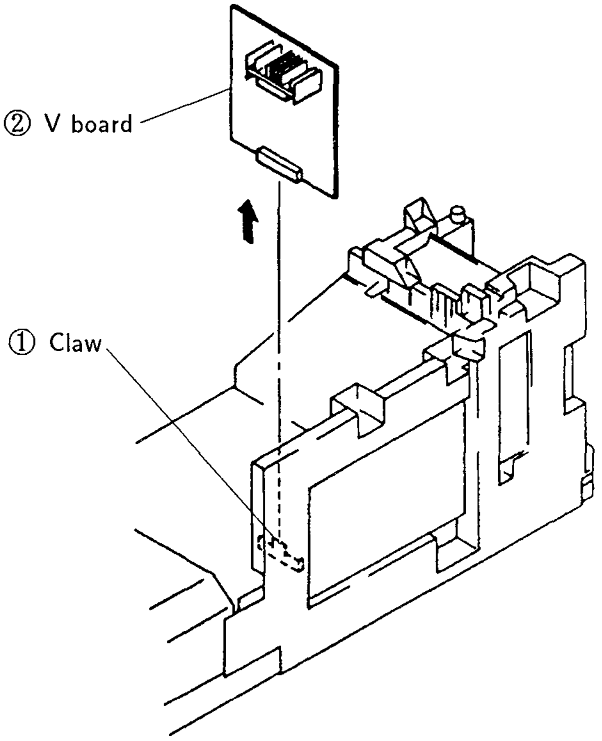
2-8. MAIN CONNECTOR PANEL REMOVAL


① One screw
(PSW 4×14)
② Main connector panel

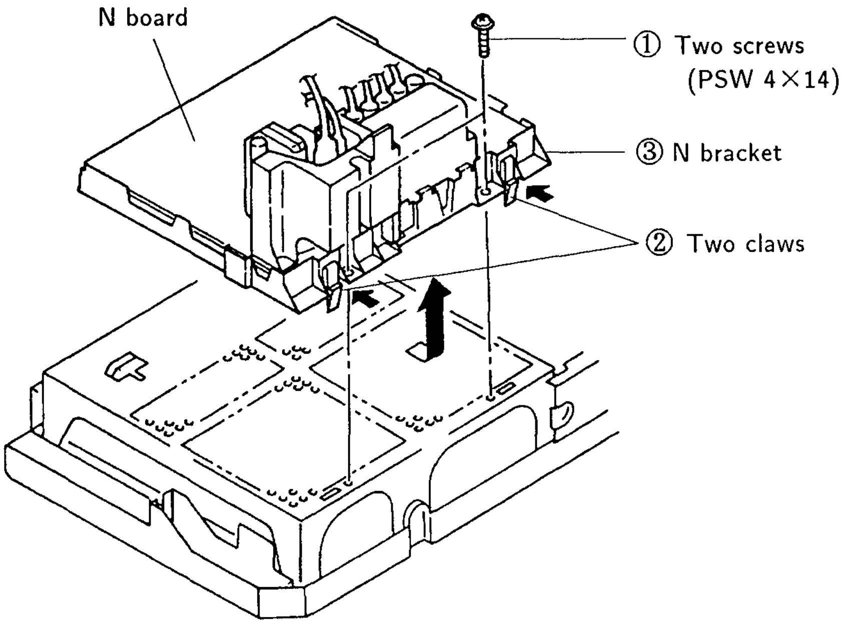
2-9. U BOARD REMOVAL


③ Two claws
④ U board
② U bracket
① Two claws

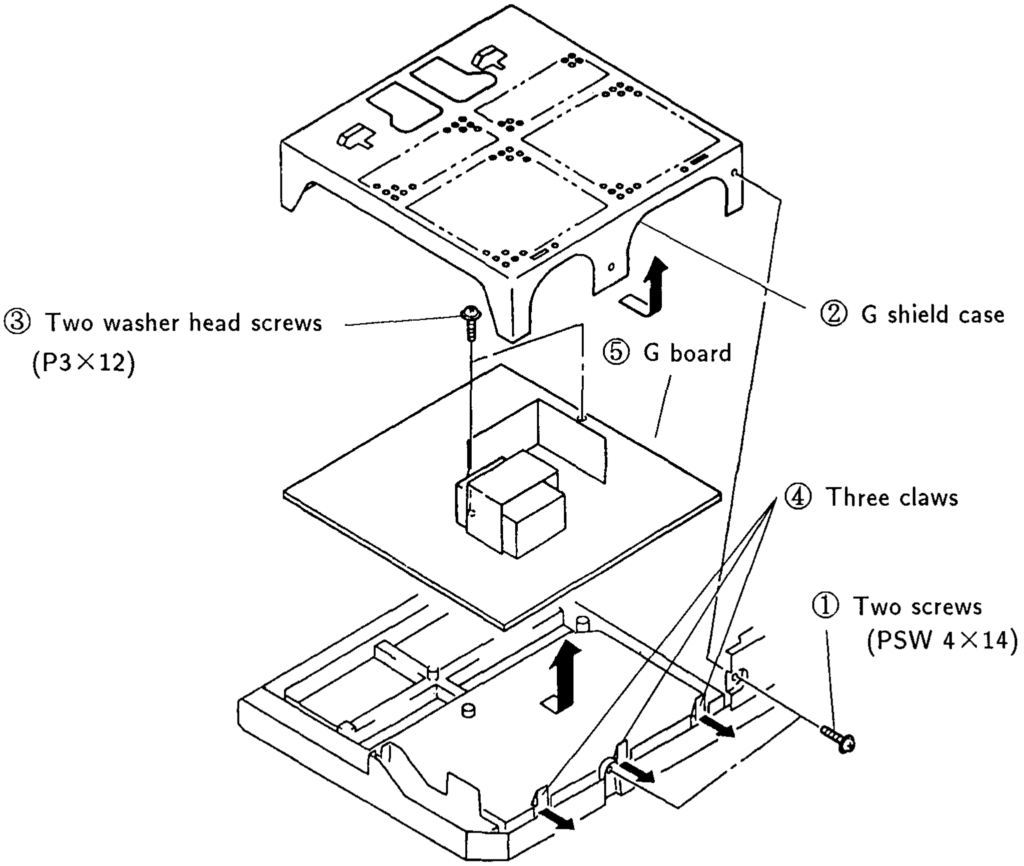
2-10. V BOARD REMOVAL


② V board
① Claw

2-11. N BRACKET REMOVAL

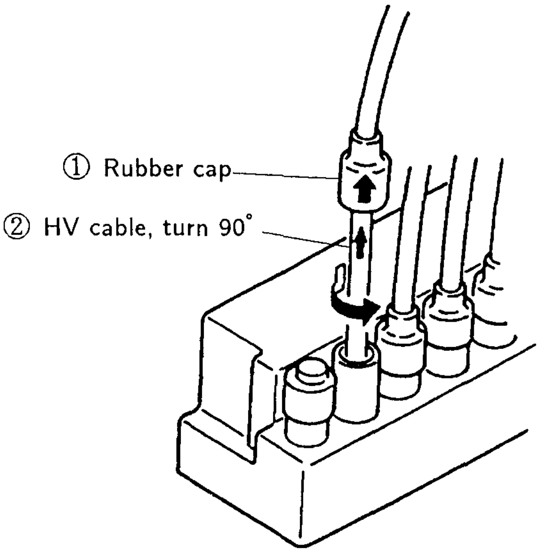

N board
① Two screws
(PSW 4×14)
③ N bracket
② Two claws

2-12. G BOARD REMOVAL

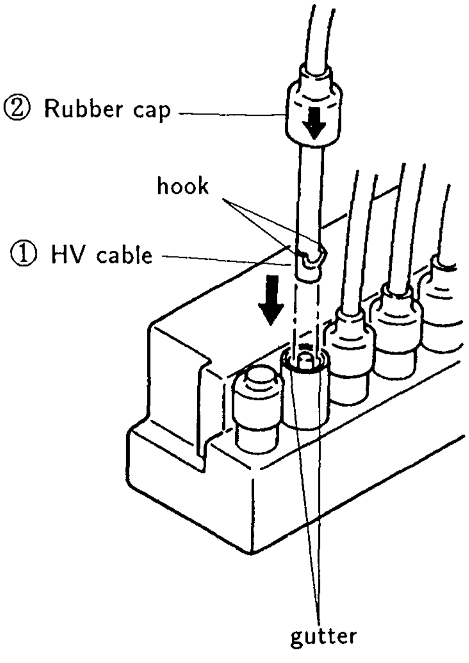

③ Two washer head screws
(P3×12)
② G shield case
⑤ G board
④ Three claws
① Two screws
(PSW 4×14)

2-13. HIGH-VOLTAGE CABLE INSTALLATION AND REMOVAL

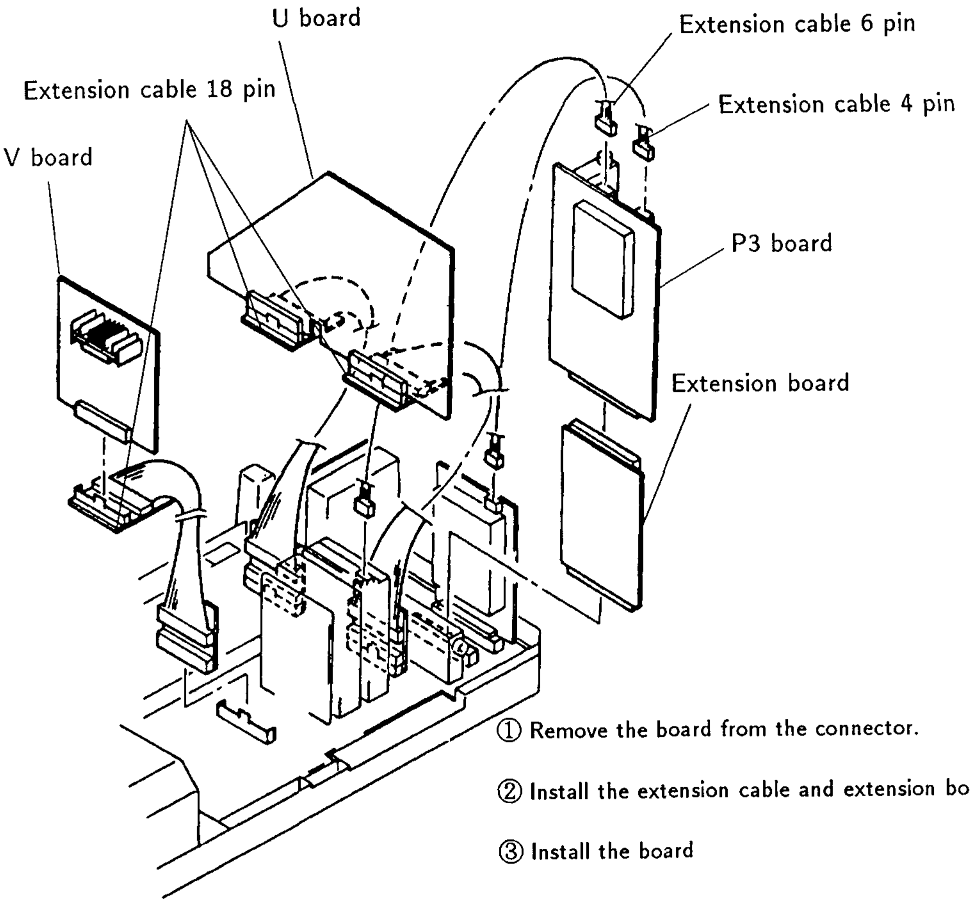
(1) Remover


① Rubber cap
② HV cable, turn 90°

(2) Installation


② Rubber cap
hook
① HV cable
gutter

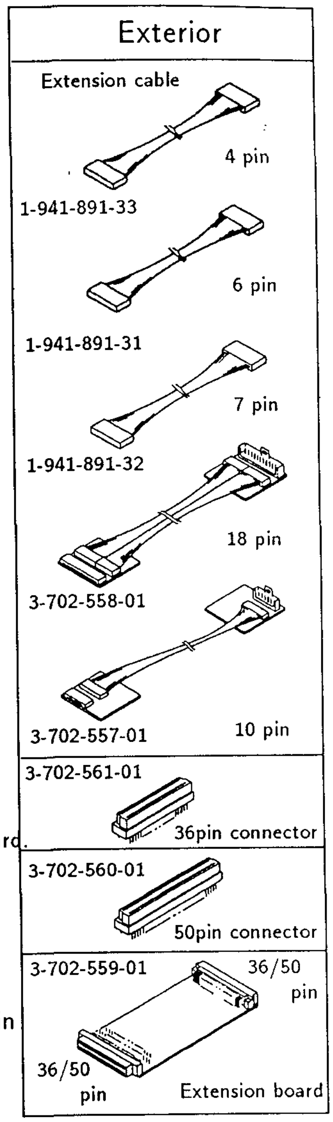
2-14-1. CONNECTOR CABLE


U board
Extension cable 6 pin
Extension cable 18 pin
Extension cable 4 pin
V board
P3 board
Extension board

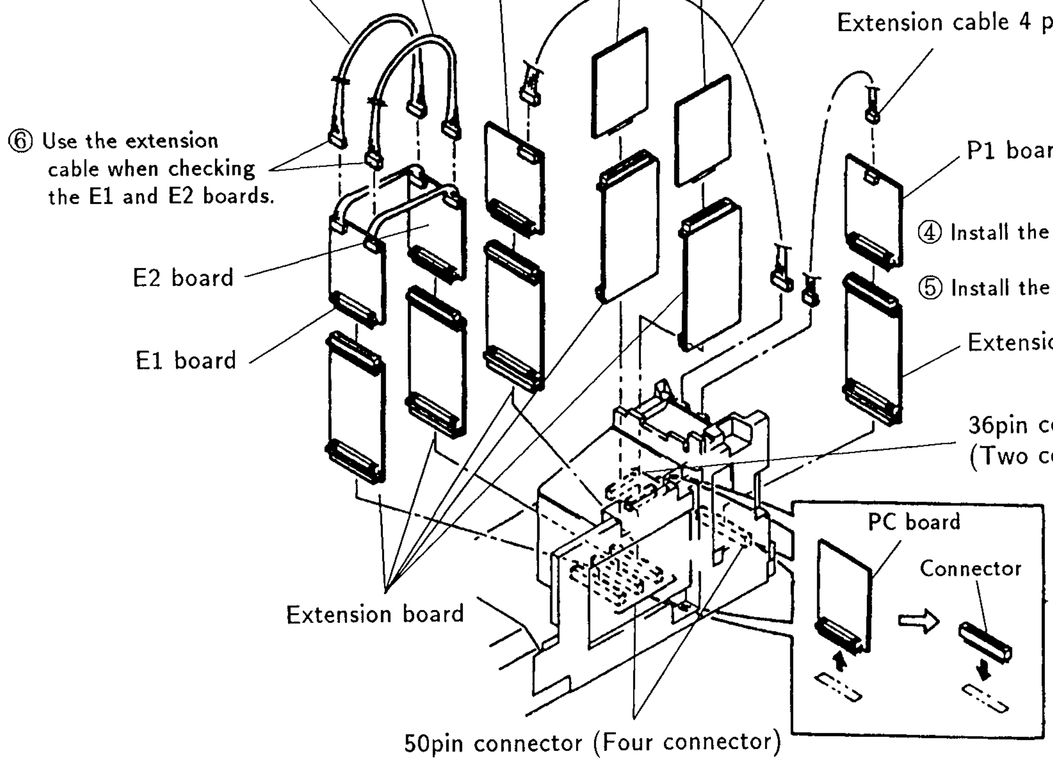
① Remove the board from the connector.

② Install the extension cable and extension board.

③ Install the board


Exterior
Extension cable
4 pin
1-941-891-33
6 pin
1-941-891-31
7 pin
1-941-891-32
18 pin
3-702-558-01
3-702-557-01
10 pin
3-702-561-01
36pin connector
3-702-560-01
50pin connector
3-702-559-01
36/50 pin
36/50 pin
Extension board

2-14-2. CONNECTOR CABLE


Extension cable 7 pin
Extension cable 6 pin
M board
Y2 board
X2 board
Extension cable 6 pin
Extension cable 4 pin
P1 board
E2 board
E1 board
Extension board
Extension board
36pin connector
(Two connector)
PC board
Connector
50pin connector (Four connector)

⑥ Use the extension cable when checking the E1 and E2 boards.

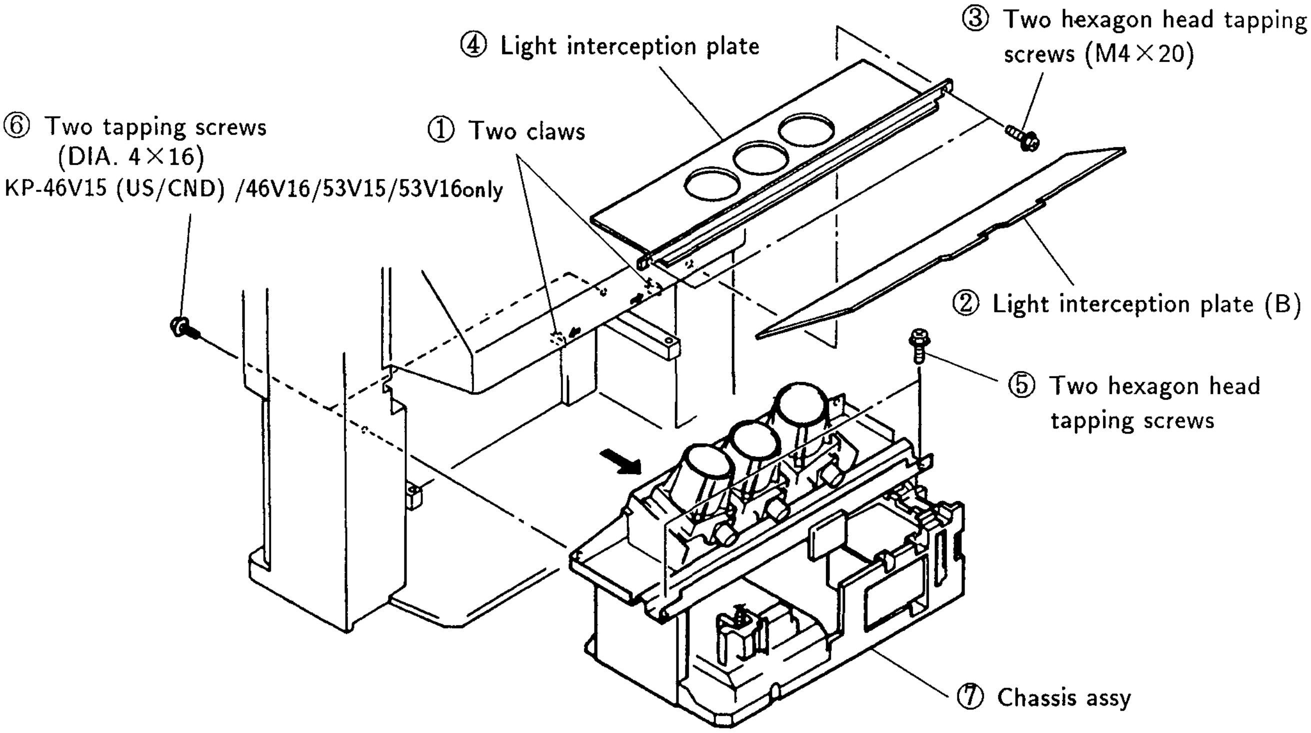
④ Install the PC board removed

⑤ Install the extension board.

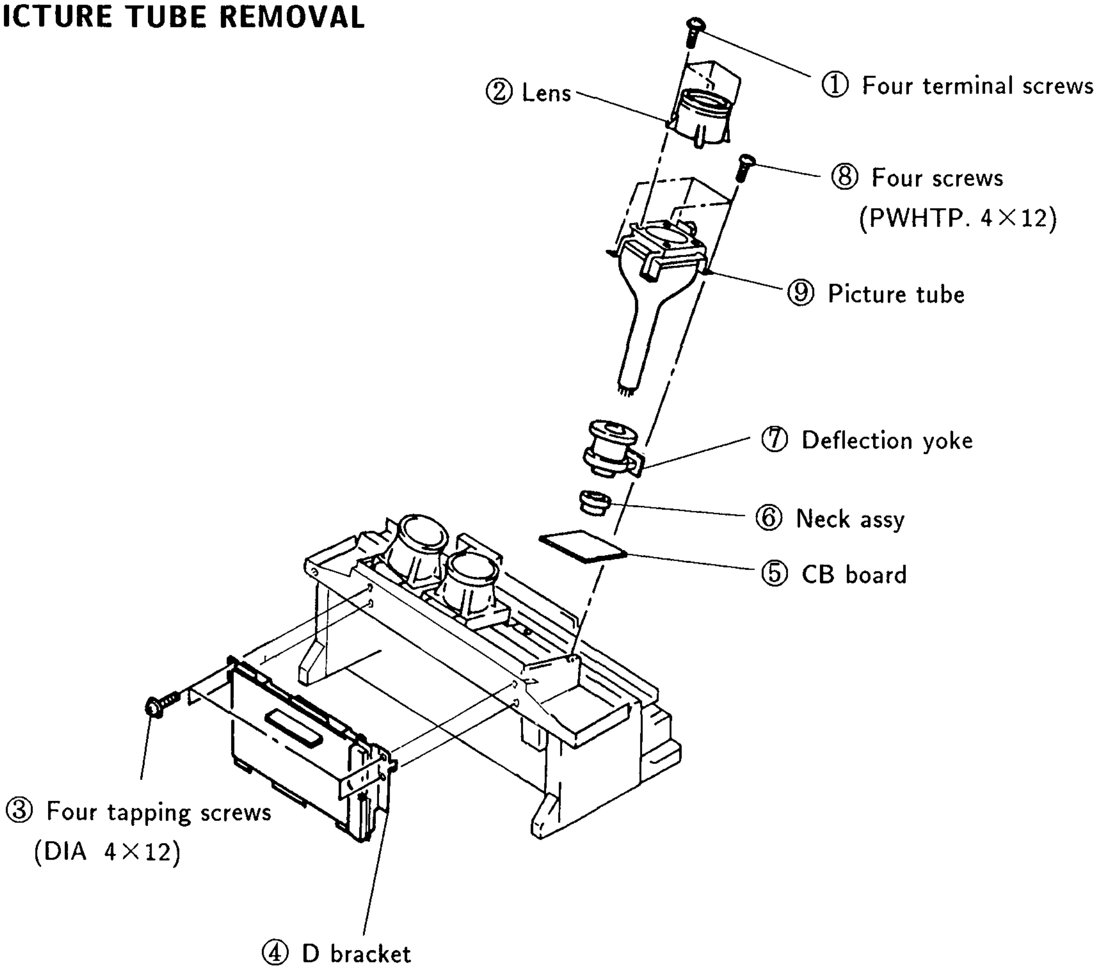
(1) De-solder the PC board and remove it

(2) Solder the connector

2-15. CHASSIS ASSY REMOVAL


④ Light interception plate
③ Two hexagon head tapping screws (M4×20)
⑥ Two tapping screws (DIA. 4×16) KP-46V15 (US/CND) /46V16/53V15/53V16only
① Two claws
② Light interception plate (B)
⑤ Two hexagon head tapping screws
⑦ Chassis assy

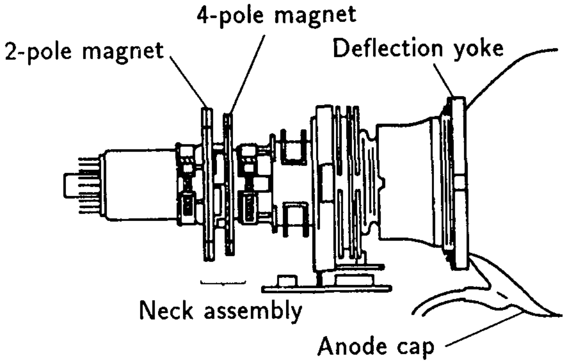
2-16. PICTURE TUBE REMOVAL


① Four terminal screws
② Lens
⑧ Four screws (PWHTP. 4×12)
⑨ Picture tube
⑦ Deflection yoke
⑥ Neck assy
⑤ CB board
③ Four tapping screws (DIA 4×12)
④ D bracket

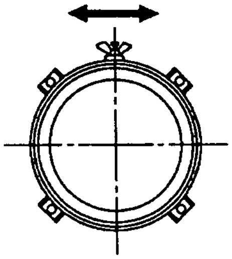
SECTION 3
SET-UP ADJUSTMENTS

3-1. FOCUS LENS ADJUSTMENTS

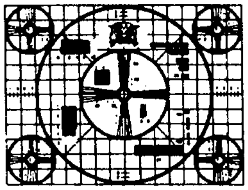
1. Set the D-board registration variable resistors (VR) to mechanical center.
2. Set the centering magnets (for red, green, and blue) to 0 as shown in the figure.

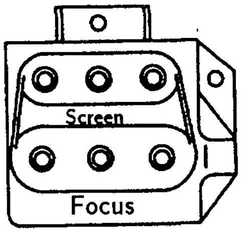


3. Input monoscope signal. Set 50% BRIGHTNESS and minimum PICTURE. Make rough adjustment so that 10IRE of the monoscope signal becomes faintly luminous using the screen VRs.
4. Set PICTURE and BRIGHTNESS maximum. Press the commander menu button. Select CONVERGENCE to display test signal.
5. Enter service mode. Select R OFF of SERVICE MODE to cut off red output. Similarly, select B OFF to cut off blue output.
6. Turn the green lens to eliminate flare of the test signal.



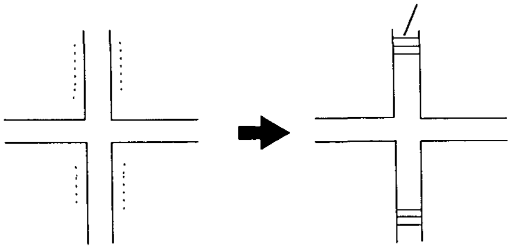
(Lens)



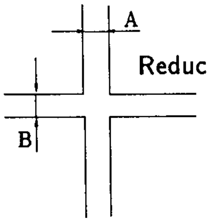


(Focus block)

Verify that scanning lines are seen.



7. Turn the green focus VR in the focus block to adjust green focus to reduce both A and B of the test signal to minimum.



Reduce both A and B to minimum.

8. Repeat avobe 6 and 7. Couple of times to improve tracking and obtain an optimum focus. Then tighten the green lens screw.
9. Adjust the red and blue focuses similarly.

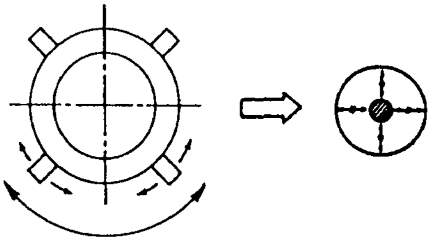
3-2. DEFLECTION YOKE POSITION ADJUSTMENTS

1. Input monoscope signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output. Similarly, select B OFF to cut off blue output.
3. Loosen the deflection yoke (DY) fitting screws. Tilt the DY to obtain the best horizontal and vertical monoscope patterns.
4. After adjustment, press the DY onto the cathode ray tube (CRT) funnel and tighten the screws.
5. Also adjust DY positions for red and blue outputs in the same way.

3-3. 2-POLE MAGNET ADJUSTMENT

1. Input dot signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
   Similarly, select B OFF to cut off blue output.
3. Set PICTURE to maximum. Turn the green focus variable resistor (VR) in the focus block counterclockwise from the just focus to brighten the point in the dot.
4. Adjust the 2-pole magnet to position the bright point at the center of the dot.
5. Adjust the red and blue dots in the same way.

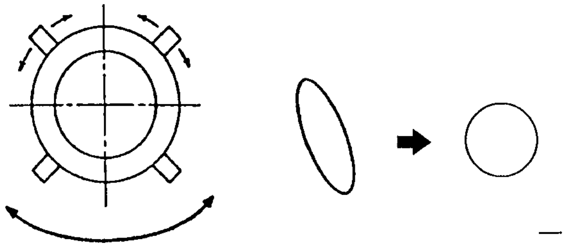
＊ Use the center dot:red and green
Use the vertical center and left end dot :blue



3-4. 4-POLE MAGNET ADJUSTMENT

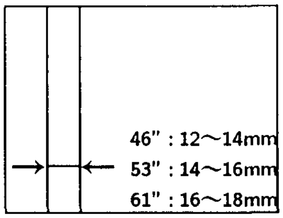
1. Input dot signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
   Similarly, select B OFF to cut off blue output.
3. Set PICTURE to maximum. Turn the green focus variable resistor (VR) in the focus block clockwise (count clockwise:blue) from the just focus until the dot diameter becomes as shown below.
4. Adjust the 2-pole magnet to make the dot perfectly round.
5. Turn the green focus variable resistor to the just focus.
6. Adjust the red and blue dot in the same way.

＊ Use the center dot : red and green
Use the vertical center and left end dot : blue



3-5. DE-FOCUS ADJUSTMENT (BLUE)

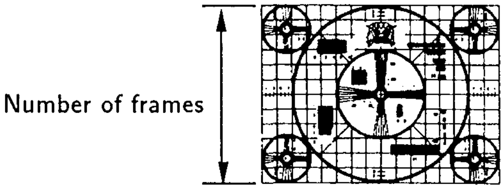
1. Input cross hatch signal.
2. Turn the blue focus variable resistor (VR) in the focus block counter clock wise so that thewidth of the left end vertical line becomes as shown below



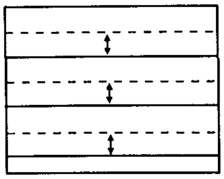
without flare

3-6. GREEN PICTURE ADJUSTMENTS

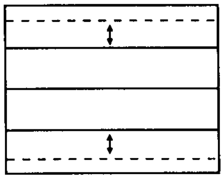
1. Input monoscope signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
   Similarly, select B OFF to cut off blue output.
3. Turn RV913 and RV960, the vertical green linearity variable resistors (V.G LIN VRs) on the D-board, to obtain an optimum vertical linearity. Then turn RV911, the vertical green amplitube variable resistor (V.G SIZE VR) to set vertical amplitude to 11.7 flames.
   Note: The vertical position indicator of the monoscope signal must be positioned at the center by adjusting RV905, the vertical green center position variable resistor (V.G CENT VR) in advance.



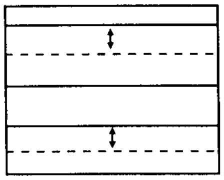
Monoscope signal



RV905 V.G CENT
(vertical position)

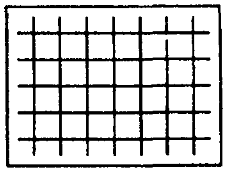


RV911 V.G SIZE
(vertical amplitude)



RV913 V.G LIN
(vertical linearity)

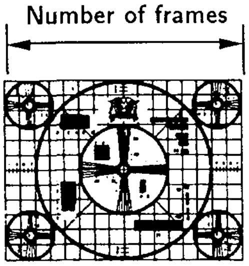
5. Verify that the horizontal lines on the top and bottom of cross-hatched area of the monoscope signal are horizontal and linear.



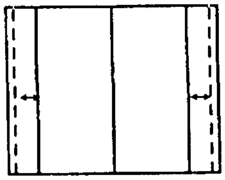
6. Turn RV916, RV964 and RV969, the horizontal green linearity variable resistors (H.G LIN VRs) on the D-board, to obtain an optimum horizontal linearity.

   Then turn RV908, the horizontal green amplitude variable resistor (H.G SIZE VR) to set horizontal amplitude to 15.6 frames.

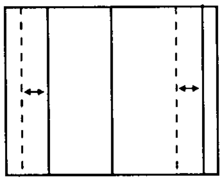
   Note: The horizontal position indicator of the monoscope signal must be positioned at the center by adjusting RV902, the horizontal green center position variable resistor (V.G CENT VR) in advance.



Monoscope signal



RV908 H.G SIZE
(horizontal position)



RV916 H.G LIN
(horizontal linearity)

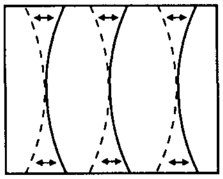
7. Input cross hatch signal.

   Turn vertical green (V.G) and horizontal green (H.G) variable resistors (VRs) and make adjustments according to the following steps :

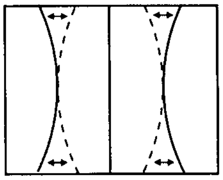
(Adjustment procedure)

1. [BOW] → [SKEW] → [CENT (center position)]
2. [PIN (pin warp)] → [SUB BOW] → [BOW]
3. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
4. [M.WAVE (middle sine wave warp)] → [WAVE-A (upper and lower sine wave warp)] → [WAVE-U (upper sine wave warp)]
   ※ For vertical (V) only.
5. [V-M.PIN (vertical middle pin warp)] → [V/WING (vertical wing warp)]
   ※ For vertical (V) only.
6. [H-M.PIN (horizontal middle pin warp)]
   ※ For horizontal (H) only.

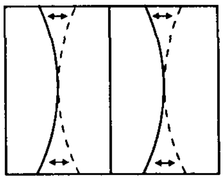
(Dot motion)



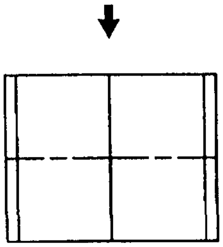
RV932 H.G BOW
(horizontal green bow)



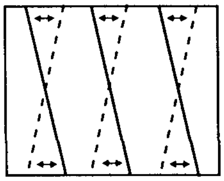
RV941 H.G PIN
(horizontal green pin warp)



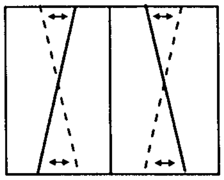
RV950 H.G SUB BOW
(horizontal green sub bow)



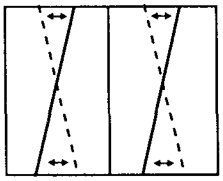
V.G BOW·····················RV935
V.G PIN························RV938
V.G SUB BOW···············RV953



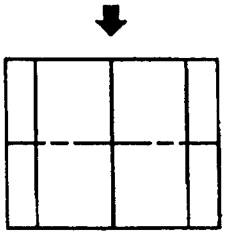
RV920 H.G SKEW
(horizontal green skew)



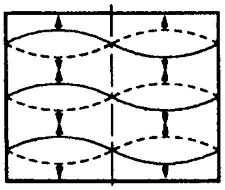
RV925 H.G KEYS
(horizontal green trapezoid)



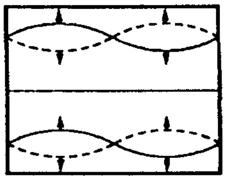
RV944 H.G SUB SKEW
(horizontal green sub skew)



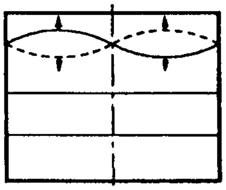
V.G SKEW·····················RV923
V.G KEYS·····················RV929
V.G SUB SKEW··············RV947



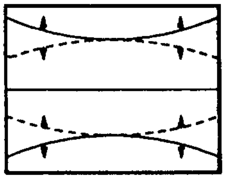
RV962 V-M-WAVE
(vertical middle sine wave warp)



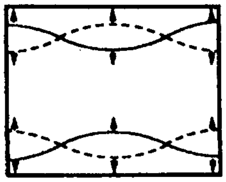
RV975 V-WAVE-A
(vertical upper and lower sine wave warp)



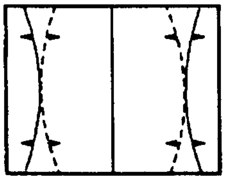
RV978 V-WAVE-U
(vertical upper sine wave warp)



RV980 V-M. PIN
(vertical middle pin warp)
※ Common in red, green, and blue



RV957 V/WING
(wing warp)
※ Common in red, green, and blue



RV956 H/M. PIN
(horizontal middle pin warp)

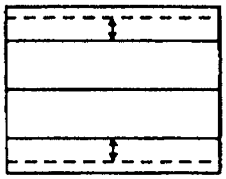
3-7. GREEN AND RED REGISTRATION ADJUSTMENTS

1. Input cross hatch signal.
2. Enter service mode. Select B OFF of SERVICE MODE to cut off blue output.
3. Turn the vertical red (V.R) and horizontal red (H.R) variable resistors (VRs) to adjust red picture convergence in relation to green picture according to the following steps :

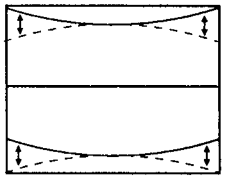
(Adjustment procedure)

1. [LIN (linearity)] → [SIZE (amplitude)] → [CENT (center position)]
2. [BOW] → [SKEW] → [CENT (center position)]
3. [PIN (pin warp)] → [SUB BOW] → [BOW] [H/M. PIN (horizontal middle pin warp)]
4. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
5. [M.WAVE (middle sine wave warp)] → [WAVE-A (upper and lower sine wave warp)] → [WAVE-U (upper sine wave warp)]

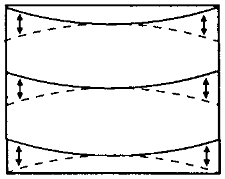
(Dot motion)



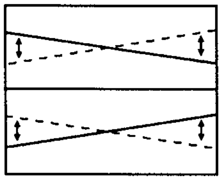
RV912 V.B SIZE
(vertical red amplitude)



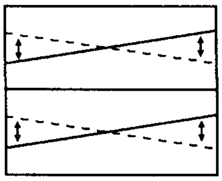
RV952 V.R SUB BOW
(vertical red sub bow)



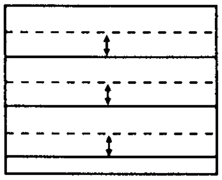
RV943 V.R BOW
(vertical red bow)



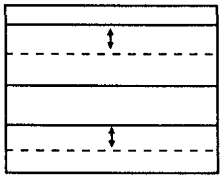
RV928 V.R KEYS
(vertical red trapezoid)



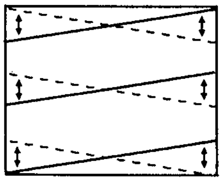
RV946 V.R SUB SKEW
(vertical red sub skew)



RV904 V.R CENT
(vertical red center position)



RV917 V.R LIN
(vertical red linearity)



RV922 V.R SKEW
(vertical red skew)

H.R LIN	RV915
H.R SIZE	RV907
H.R CENT	RV901
H.R BOW	RV931
H.R SKEW	RV919
H.R PIN	RV940
H.R KEYS	RV926
H.R SUB BOW	RV949
H.R SUB SKEW	RV943
V-M-WAVE	RV973
V-WAVE-A	RV976
V-WAVE-U	RV979
V-M.PIN	RV980
V/WING	RV957
H/M.PIN	RV956

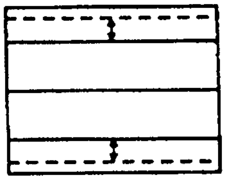
3-8. GREEN AND BLUE REGISTRATION ADJUSTMENTS

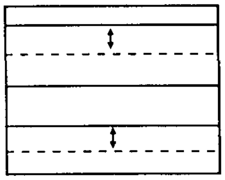
1. Input cross hatch signal.
2. Enter service mode. Select R OFF of SERVICE MODE to cut off red output.
3. Turn the vertical blue (V.B) and horizontal blue (H.B) variable resistors (VRs) to adjust blue picture convergence in relation to green picture according to the following steps :

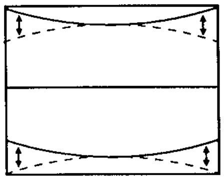
(Adjustment procedure)

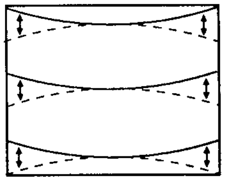
1. [LIN (linearity)] → [SIZE (amplitude)] → [CENT (center position)] →
2. [BOW] → [SKEW] → [CENT (center position)]
3. [PIN (pin warp)] → [SUB BOW] → [BOW] [H/M. PIN (horizontal middle pin warp)]
4. [KEYS (trapezoid)] → [SUB SKEW] → [SKEW]
5. [M.WAVE (middle sine wave warp)] → [WAVE-A (upper and lower sine wave warp)] → [WAVE-U (upper sine wave warp)] →

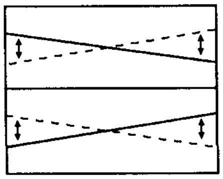
(Dot motion)

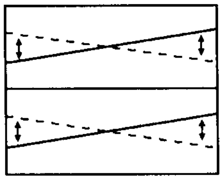

RV912 V.B SIZE
(vertical blue amplitude)

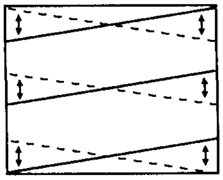

RV918 V.B LIN
(vertical blue linearity)

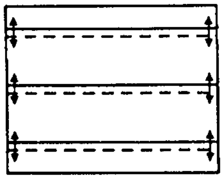

RV954 V.B SUB BOW
(horizontal blue sub bow)

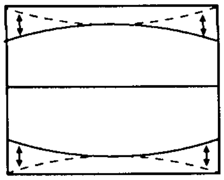

RV936 V.B BOW
(vertical blue bow)

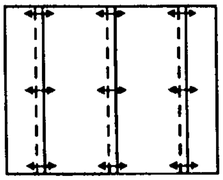

RV930 V.B KEYS
(vertical blue trapezoid)

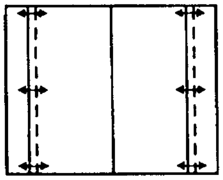

RV948 V.B SUB SKEW
(vertical blue sub skew)

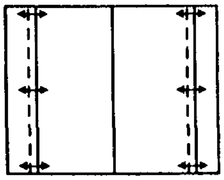

RV924 V.B SKEW
(vertical blue skew)

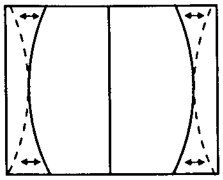

RV906 V.B CENT
(vertical blue center position)

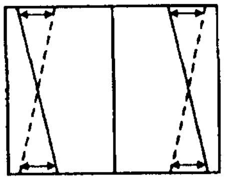

RV939 V.B PIN
(vertical blue pin warp)


RV903 H.B CENT
(vertical blue center position)

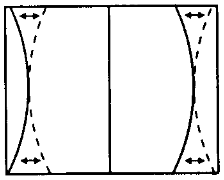

RV909 H.B SIZE
(horizontal blue amplitude)


RV914 H.B LIN
(horizontal blue linearity)

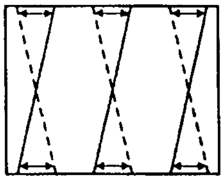

RV942 H.B PIN
(horizontal blue pin warp)



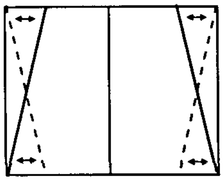
RV954 H.B SUB SKEW
(horizontal blue sub skew)



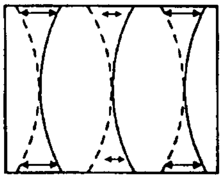
RV951 H.B SUB BOW
(horizontal blue sub bow)



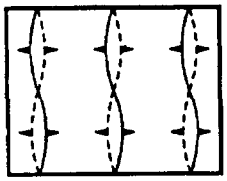
RV921 H.B SKEW
(horizontal blue skew)



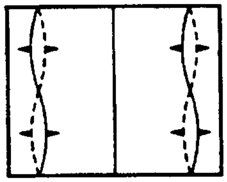
RV927 H.B KEYS
(horizontal blue trapezoid)



RV933 H.B BOW
(horizontal blue bow)



RV981
※ Common in red, green, and blue



RV982
※ Common in red, green, and blue

H/M PIN	RV958
M.WAVE	RV961
WAVE-A	RV974
WAVE-U	RV977

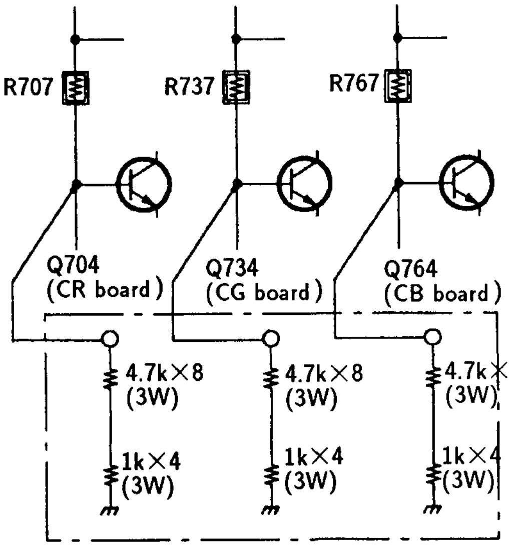
3-9. REGISTRATION CHECK

1. Out put red, blue, and green.
2. Out put cross hatch and monoscope signals to check registration. Also check focus.

3-10. WHITE BALANCE ADJUSTMENTS

1) Screen adjustment

1. Input white signal.
2. Remove connectors CR-15, CG-16, and CB-17.
3. Fit jigs between the ground and R707, R737, and R767.



※ Resistors in each jig are connected serial.

4. Turn the RGB (red, green, and blue) screen variable resistors in the focus block to make the flyback line faint. Stop before the line completely disappears.
5. Insert connectors CR-15, CG-16, and CB-17.

2) White balance adjustments (SBRT, GAMP, BAMP, GCUT, BCUT)

1. Input monoscope signal and enter service mode.
2. Select the picture quality adjustment from the menu and set PICTURE minimum.
3. Use the commander to adjust SBRT so that 10 IRE of the monoscope pattern becomes faintly luminous.
4. Input white signal.
5. Set PICTURE minimum. Adjust item GCUT and BCUT to obtain an optimum white balance.
6. Set PICTURE maximum. Adjust GAMP and BAMP to obtain an optimum white balance.
7. Repeat white balance adjustment alternating PICTURE setting at the minimum and maximum.

SECTION 4

SAFETY RELATED ADJUSTMENTS

4-1. SAFETY RELATED ADJUSTMENTS

When replacing the following components, make the HV REGULATOR adjustments (on the N board)

◪······HV block, IC803, IC805, D805, D807, C817, C818, C821, C836, C837, R824, R825, R827, R828, R834,R835, R836, R864, R865, R866, R902

When replacing the following components, make the HV HOLD DOWN adjustments (on the N board)

◪······HV block, IC803, IC804, Q804, D806, D808, C809, C819, C820, C822, C823, C850, R807, R826, R829, R832, R833, R837, R838, R839, R840, R841, R892, R893, R900, R901

When replacing the following components, make the BEAM CURRENT PROTECTOR adjustments (on the N board)

◪······① IC802, Q805, Q807, D811, D812,C810, C824, C825, C826, C827, C831, R810, R843, R844, R847, R848, R849, R850, R851, R852, R853, R854, R881

② IC804, Q804, Q808, D808, D809, C809, C828,C829, C830, C831, R807, R839, R840, R841,R847, R848, R849, R850, R851, R852, R855, R856, R857, R881

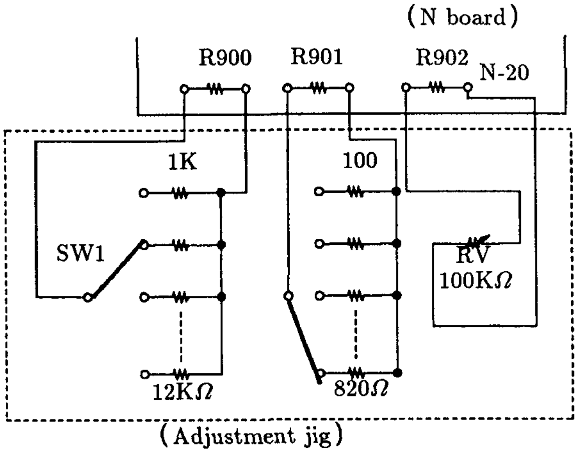
When replacing the following components, make the OVP CIRCUIT adjustments (on the G board)

◪······Q618, Q621, D628, C634, R639, R649, R652, R655, R656

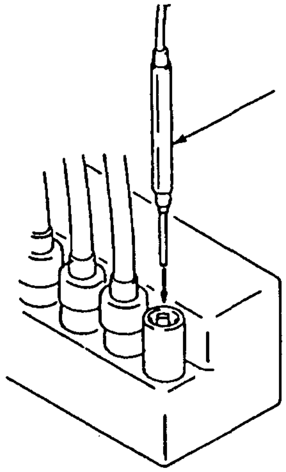
— Checking with static voltmeter —

HV HOLD DOWN ADJUSTMENTS (⧗R900, R901)

1. Verify that the power switch is off.
2. Connect the HV hold down adjustment resistance jig to the N20 connector on the N board.



3. Connect an external variable resistor (RV) to R 902 of the N board.
4. Remove the cap off from the unused terminal of the high voltage block. Connect a static voltmeter to the terminal.

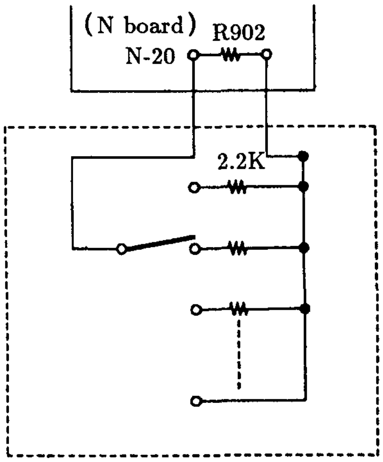


Remove high-voltage lead wire from the terminal and connect a static voltmeter there.

5. Receive 120 VAC power voltage and monoscope pattern signal. Maximize PICTURE and BRIGHTNESS.
6. Use the external variable resistor of the hold down adjustment jig to make the static voltmeter to read 33.50 ± 0.50kVDC.
7. Raise resistances with the jig until the HV hold down circuit is activated. Read the figures then, and mount resistance of the measured figures to R900 and R901.
   R900 : Must be 1kΩ to 12kΩ
   R901 : Must be Jw 100Ω to 820Ω
8. Turn on power again. Vary external variable resistance and confirm that the HV hold down circuit is activated at the reated value, 33.50± 0.50kV.

HV REGULATOR ADJUSTMENTS (⊠R902)

1. Connect the HV adjustment resistance jig to R902 of the N board.



(Adjustment jig)

2. Remove the red anode lead wire for the CRT tube from the high-voltage block and connect the static voltmeter instead.
3. Receive 120 VAC power voltage and monoscope pattern signal. Set PICTURE and BRIGHTNESS to the standard.
4. Turn on power. To adjust the resistance of R902 with the adjustment jig to read the rated value, 31.50±0.50kV.
5. Receive all-white signal. Set BRIGHTNESS to the standard. Maximize PICTURE. Confirm that the rated value, 31.50±0.50kV is read.
6. Cut off RGB by R OFF, G OFF, B OFF of the service commander. Verify that the rated value, 31.50±0.50kV, is read.

+B VOLTAGE CONFIRMATION

1. Receive 120±1 VAC power voltage and monoscope pattern signal. Set BRIGHTNESS to standard and maximize PICTURE.
2. Connect a digital multimeter between the 115V line and the ground on the G board, and confirm that the rated value, $115.0^{+2.0}_{-3.0}$V is read.

CHECKING AFTER REPLACING IC601

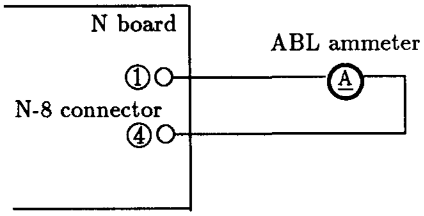
1. When replacing IC601, check the +B voltage.

CHECKING THE OVP (overvoltage protection) CIRCUIT (⊠R652)

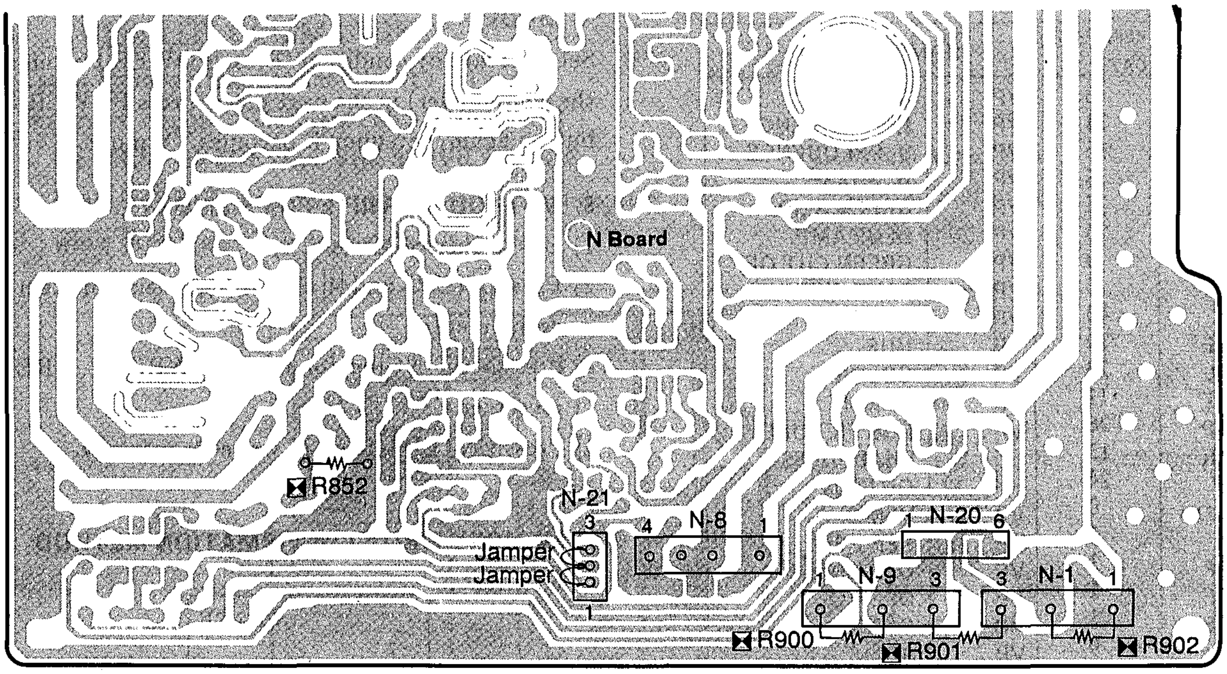
1. Receive 120 VAC power voltage and monoscope pattern signal. Maximize PICTURE and BRIGHTNESS.
2. Remove R638 from the G board and connect a variable resistor (4.7 to 10kΩ) instead.
3. Turn the variable resistor of 10kΩ and confirm that the OVP circuit is activated and luster disappears when +B voltage reads the rated value, 125.0±5.0 VDC.

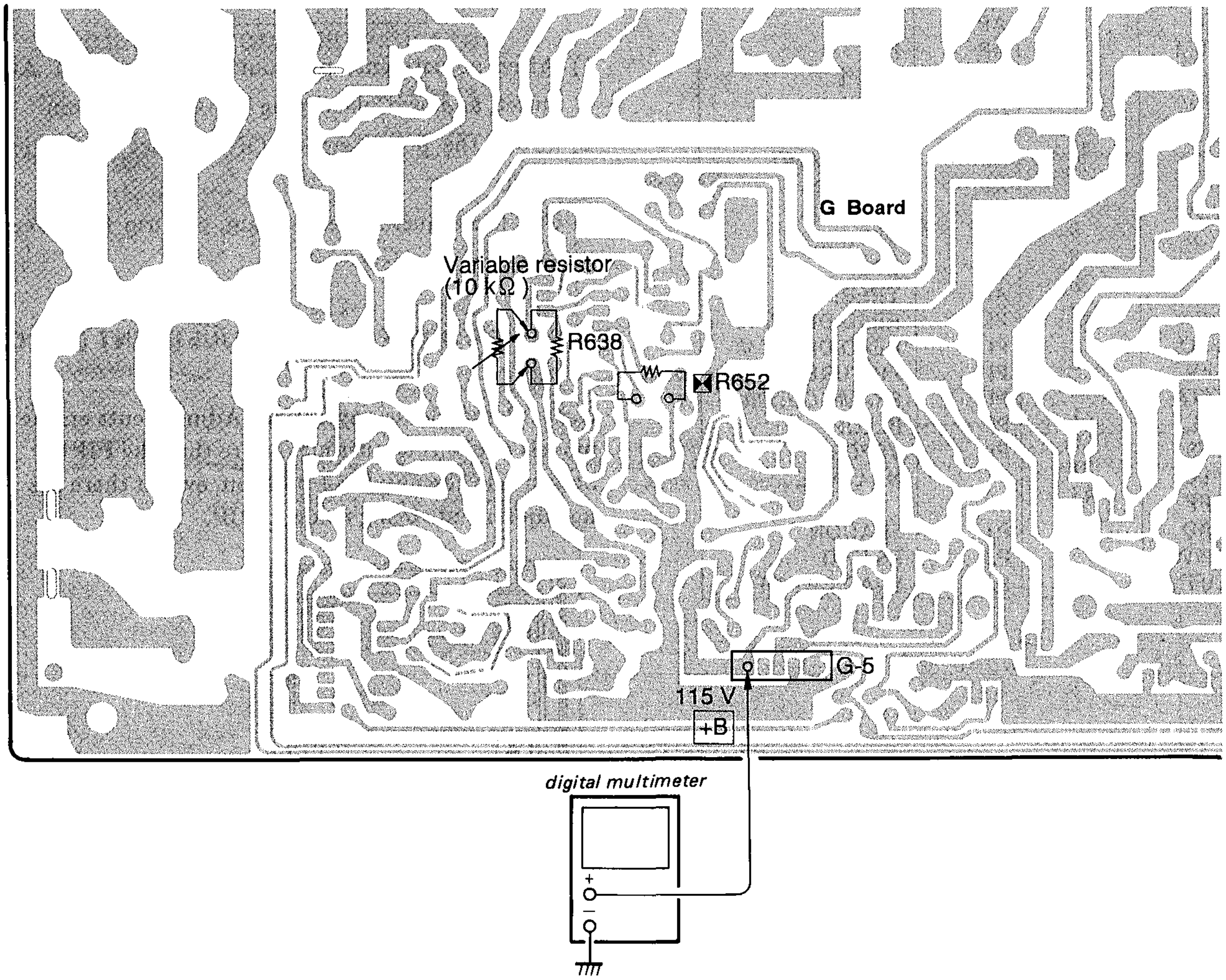
BEAM CURRENT PROTECTOR CHECK (⊠R852)

1. Receive 120 VAC power voltage and monoscope pattern signal. Maximize BRIGHTNESS.
2. Connect pin① and pin② of the N-21 connector. (on the N board)
3. Remove the jumper connector from the N-8 connector on the N board. Then connect an ABL ammeter between pin ① and pin ④ of the N-8 connector.



4. Raise PICTURE current gradually. Confirm that the beam current protector circuit is activated and luster disappears under the rated value, 3400 μA.
5. Connect pin③ and pin② of the N-21 connector. Verify that the protector circuit is activated and luster disappears similarly.


N Board
R852
N-21
3
1
Jamper
Jamper
N-8
4
1
N-20
1
6
N-9
1
3
N-1
3
1
R900
R901
R902


G Board
Variable resistor
(10 kΩ)
R638
R652
G-5
115 V
+B
digital multimeter
+
−

— Checking without static voltmeter —

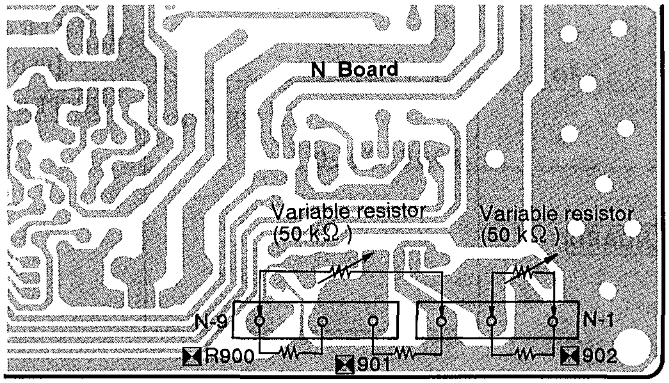
HV HOLD DOWN ADJUSTMENT (⚠R900, ⚠R901)

1. Receive all-white signal. Maximize PICTURE and BRIGHTNESS.
2. Remove R902 from the N board. Connect a variable resistor of 50kΩ on each end, and minimize the resistance.
3. Remove R900 and R901 from the N board. Connect a variable resistor of 50kΩ on each end, and minimize the resistance.
4. Connect a digital voltmeter between the D801 cathode and chassis ground of the N board.
5. Turn on the power switch. Adjust the variable resistors connected to the R902 of the N board to make the digital multimeter to read 145.0VDC.
6. Adjust the variable resistors connected to R900 and R901 on the N board so as to activate the HV hold down circuit and turn off the display.
7. Read the variable resistors connected to R900 and R901 and mount fixed resistors of measured resistance to the terminals.

   Note : Select fixed resistance from the following ranges.

   R900 : 1kΩ to 12kΩ

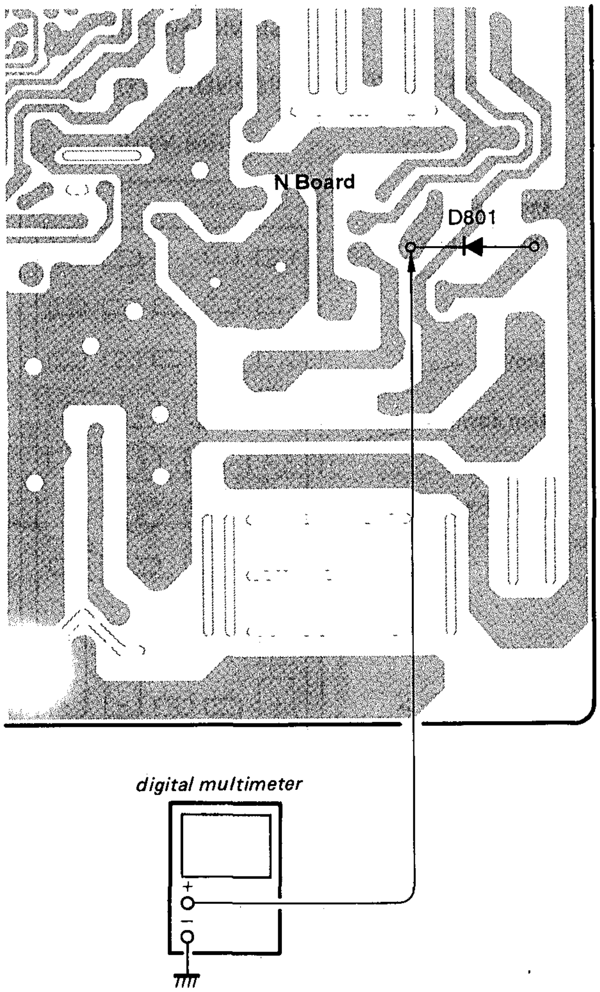
   R901 : Jw 100Ω to 820Ω
8. Maximize resistance of the variable resistor connected to R902 of the N board and turn on power.
9. Vary variable resistance at R902. Confirm that the HV hold down circuit is activated and the display is turned off when voltage reads 134±1.0V.



HV REGULATOR ADJUSTMENT (⚠R902)

1. Receive all-white signal. Maximize PICTURE and BRIGHTNESS.
2. Connect a variable resistor of 50kΩ on each end of R902 of the N board. Maximize resistance.
3. Connect a digital voltmeter between the D801 cathode and the chassis of the N board.
4. Turn on power. Adjust the variable resistor so that the digital multimeter reads 135.0V±1.0V.
5. Read the variable resistance then.
6. Mount a fixed resistor of the measured resistance to R902.

   Note : R902 : Must be 2.2kΩ to 27kΩ
7. Turn on power again. Confirm that the digital multimeter reads 135.0V±1.0V.



SECTION 5
CIRCUIT ADJUSTMENTS

5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

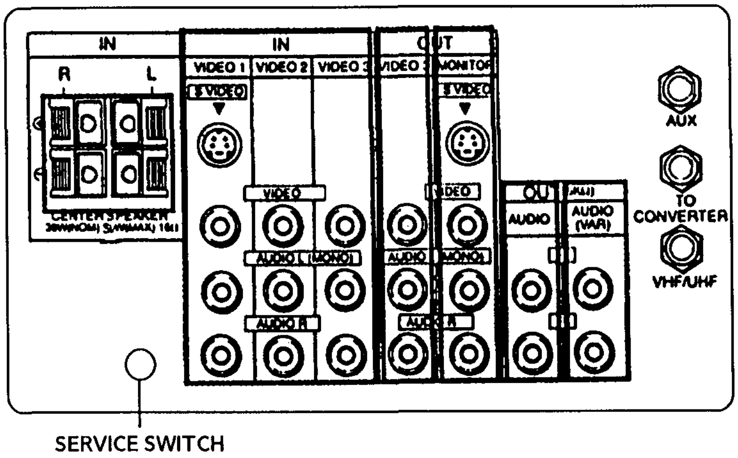
Use of Remote Commander (RM-Y115) can be performed circuit adjustments about this model.

1. METHOD OF SETTING THE SERVICE MODE

1) Press POWER button on the Remote Commander while pressing switch on the rear of the set.

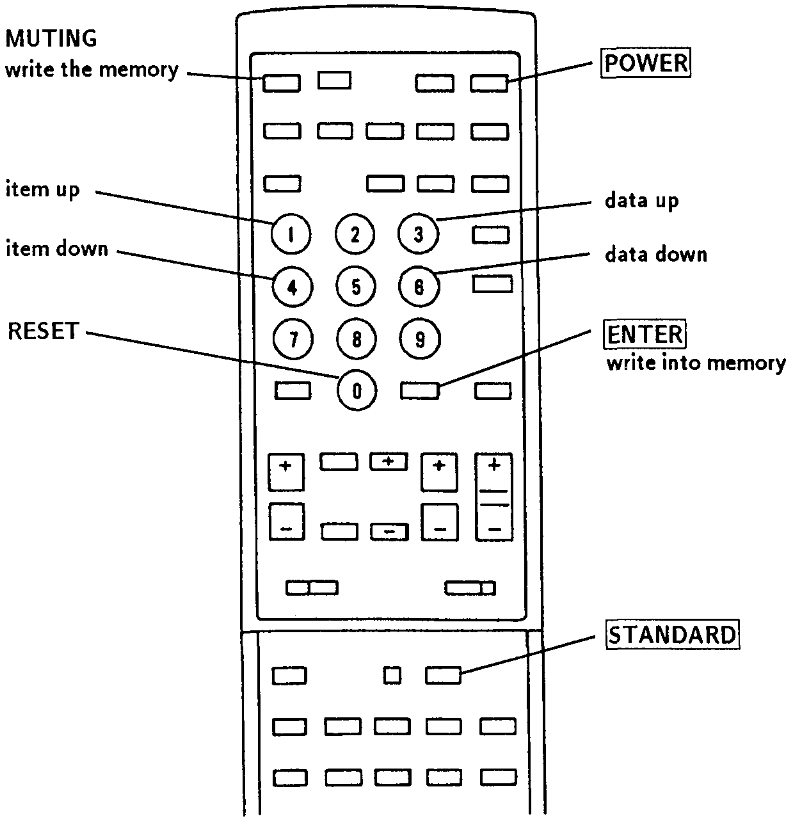
NOTE : Test Equipment Required.

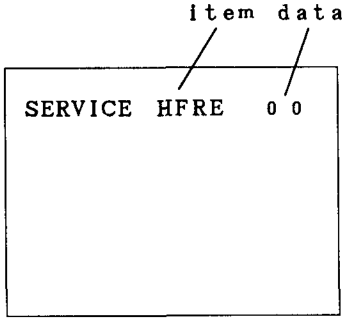
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

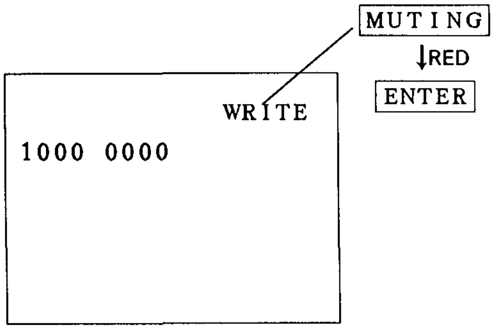

IN
R
L
CENTER SPEAKER
IN
VIDEO 1
VIDEO 2
VIDEO 3
S VIDEO
VIDEO
AUDIO L (MONO)
AUDIO R
OUT
VIDEO 3
MONITOR
S VIDEO
VIDEO
AUDIO (MONO)
AUDIO R
OUT
AUDIO
AUDIO (VAR)
AUX
TO CONVERTER
VHF/UHF
SERVICE SWITCH

2. ADJUST BUTTONS AND INDICATOR

RM-Y115


MUTING
write the memory
item up
item down
RESET
POWER
data up
data down
ENTER
write into memory
STANDARD
1
2
3
4
5
6
7
8
9
0
+
-


item
data
SERVICE HFRE 0 0


MUTING
↓RED
ENTER
WRITE
1000 0000

3. AN ITEM OF ADJUSTMENT

ITEM	REFERENCE DATA	NAME REGIST	
AFC	0	VP	AFC 1.0
HFRE	74	VP	H. FREQUENCE
VFRE	16	VP	V. FREQUENCE
HPOS	5	VP	H. PHASE
GAMP	25	VP	GREEN AMP.
BAMP	26	VP	BLUE AMP.
GCUT	9	VP	GREEN CUT OFF.
BCUT	6	VP	BLUE CUT OFF
SPIX	40	VP	PICTURE
SHUE	29	VP	HUE
SCOL	28	VP	COLOR
SBRT	11	VP	BRIGHT
RGBP	28	VP	RGB PICTURE
SHAR	13		SHARPNESS
DISP	24		OUTPUT
VSMO	0	VP	VSMO
REF	1	VP	REF 1.0
ROFF	1	VP	OFF NR
GOFF	1	VP	OFF NG
BOFF	1	VP	OFF NB
ABLM	0	VP	ABLM
DRGB	0	VP	D RGB
TEST	0	AP	T
MPX	7	AP	ATT
FILO	31	AP	I 1
DEEM	7	AP	I 2
STEV	31	AP	OSC 1
SAPV	31	AP	OSC 2
PILO	7	AP	PILOT
SEP	31	AP	WIDE BAND
VD	7	AP	SPECTRAL
LVOL	0	AP	VOLUME-L
RVOL	0	AP	VOLUME-R
BASS	8	AP	BASS
TRE	8	AP	TREBLE
PHPO	32	PI	READ DELAY H
PVPO	8	PI	READ DELAY V
PLEV	6	PI	PICTURE LEVEL
PFCO	7	PI	FRAME COLOR
PPLL	1	PI	PLLOF
PPVS	6	PI	VSPDEL
NRLE	31		NR LEVEL
DSPP	43		
SHAD	1	PJ	SHADON
VMSW	1	PJ	RS HAD
SCUT	16	PJ	SHAD CUT OFF

4. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press POWER button on the commander) in the next place, press POWER button again, hereupon it becomes TV mode.

5. METHOD OF WRITE FOR MEMORY

1) Set to Service Mode.
2) Press 1 (UP) and 4 (DOWN), select an item of adjustments.
3) Press MUTING button indicate WRITE (RED) on screen.
4) Press ENTER button to write for memory.

6. MEMORY WRITE CONFIRMATION METHOD

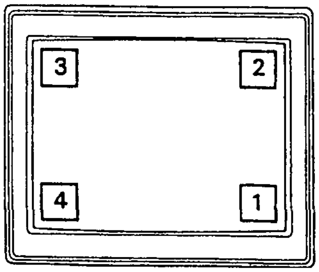
WRITE

1000 0000

1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again, confirm they were adjusted.

7. PUB PICTURE POSITION ADJUSTMENT (PHPO, PUPO)

Note : Before doing any Service Adjustments on the models above you must make sure that the PIP Screen is in the number 1 position, even if there are no adjustments being made to PIP.



PIP Positions

After making adjustments into the PIP 1 position, write the information into the ROM.
Next, unplug the unit and recheck the other three positions. Adjustments made to the number 1 position will affect the other three positions.

5-2. A BOARD ADJUSTMENTS

RF AGC ADJUSTMENT(IF BLOCK VR)

1) Input a color-bar signal.
2) Adjust AGC VR of TU 101 so that snow noise and cross-modulation disappear from the picture.
3) Confirm them at every channel.

H.FREQUENCY ADJUSTMENT (HFRE)

1) Set to Service Mode.
2) Input a color-bar signal.
3) Connect a frequency counter to pin③ of A-10 connector.
4) Call the item of AFC, set to 3 level (free run).
5) Select HFRE with 1 and 4.
6) Adjust 3 and 6 to the 15735± 60 Hz level.
7) Call the item of AFC again, adjust the level“ 01 ”.
8) Write into the memory by pressing MUTING → then ENTER.

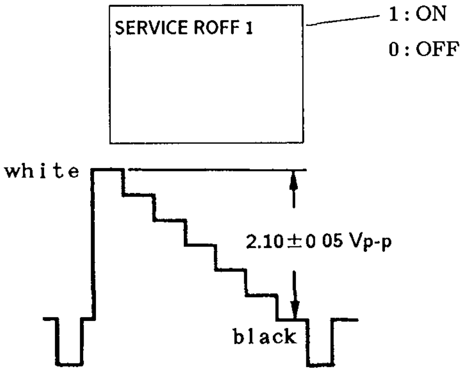
V.FREQUENCY ADJUSTMENT (VFRE)

1) Set the Service Mode.
2) Input an off-air signal (VIDEO IN → no signal).
3) Connect the frequency counter across connector ⑬pin of E 1-1 connector and ground.
4) Select VFRE with 1 and 4.
5) Adjust 3 and 6 to the 56 ±0.5 Hz.
6) Write the memory by pressing MUTING → then ENTER .

SUB CONTRAST ADJUSTMENT (SPIX)

1) Set to Service Mode.
2) Input a color-bar signal. (75 IRE)
3) Set the conditions as follows.

PICTURE	……… MAX
COLOR	……… MIN
BRIGHTNESS	……… MIN
TRINITONE	……… LOW
R OFF	……… ON
G OFF	……… OFF
B OFF	……… OFF

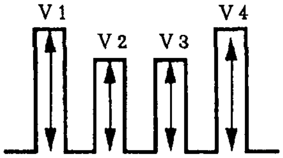


4) Connect an oscilloscope to ⑳pin of E1-1 connector on A board and ground.
5) Adjust 3 and 6 to the 2.10 ± 0.05Vp-p level by select-ing SPIX with 1 and 4.
6) Write the memory by pressing MUTING → then ENTER .
7) Return the following back to normal after adjustment.

G OFF	……… ON
B OFF	……… ON
COLOR	……… CENTER
BRIGHTNESS	……… CENTER
TRINITONE	……… HIGH
PICTURE	……… 80%

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1) Input a color-bar signal.
2) Press STANDARD to normal.
3) Set to Service Mode.
4) Connect an oscilloscope to pin㉒ of E1-1 connector on A board and ground.
5) Adjust 3 and 4 to the V1=V4 and V2=V3 by select to SHUE and SCOL with 1 and 4. Lower the data 4 steps from this point.

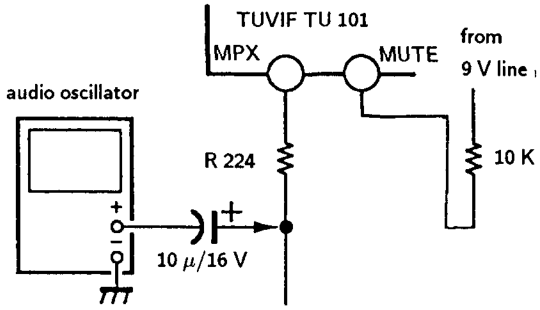


6) Write into the memory by pressing MUTING →then ENTER .

FILTER ADJUSTMENT (MPX, FILO)

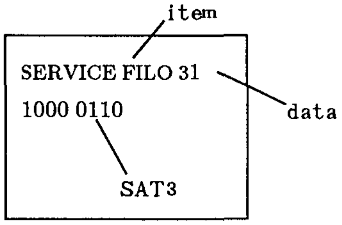
1) Set to Service Mode.
2) Select to TEST with 1 and 4, set the data to "1". Then select MPX and change data to "08"
3) Connect an audio oscillator to R224 using a capacitor (10μ F/16V), set frequency to 62.936 kHz±0.1 kHz.

And then, through the 10kΩ resistor, feed 9.0V into the mute of TUVIF TU 101.


TUVIF TU 101
MPX
MUTE
from
9 V line
audio oscillator
R 224
10 K
+
–
+
10 μ/16 V

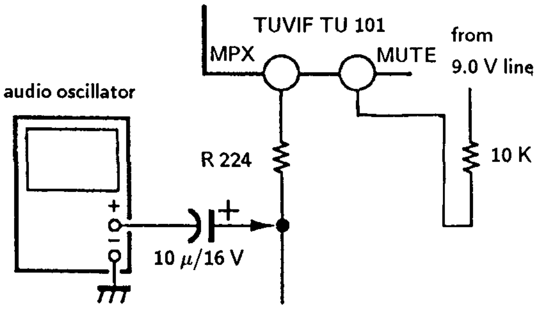
V 4 fh : SINE-WAVE 62 936 KHz±0.1 KHz
LEVEL 3.0 Vp-p

4) Make the data "00" by selecting FILO with 1 and 4 And then, send up the data gradually by pressing 6 . Set the data to D1 before SAT3 changing to 1 from 0.
5) Send up the data gradually. Set data D2 when SAT3 changes 0 from 1.
6) Adjust the data of FILO to $\frac{D1+D2}{2}$.
7) Write into the memory by pressing MUTING → then ENTER .


item
SERVICE FILO 31
1000 0110
data
SAT3

ST VCO ADJUSTMENT (MPX, STEV)

1) Set to Service Mode.
2) Select TEST with 1 and 4 , set the data to "1". And then press MTS to MONO.
3) Select MPX, set the data "8" .
4) Connect an audio oscillator to R 224 using electrolytic capacitor (10μ F/16V) and appply the frequency V_{ST}. Then, apply DC voltage to mute of TUVIF TU 101 using 10kΩ connect to 9.0 V line.


TUVIF TU 101
MPX
MUTE
from
9.0 V line
audio oscillator
R 224
10 K
+
–
+
10 μ/16 V

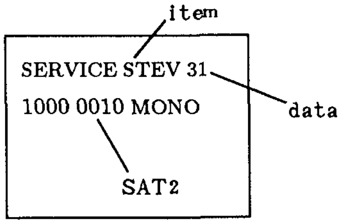
Vfh : SINE-WAVE 15.734 KHz±0.1 KHz
LEVEL 0.28 Vp-p

5) Select STEV with 1 and 4, set the data to "00" with 6. And then, send up the data gradually. Set the data to D1 before SAT2 changes from 0 to 1.

6) Send up data gradually, set the data to D2 when SAT2 changes 1 from 0.

7) Adjust the data of STEV to (D 1+D 2)/2.

8) Write into the memory by pressing MUTING → then ENTER.



MPX IN LEVEL ADJUSTMENT (MPX)

1) Set to Service Mode.

2) Select TEST with 1 and 4, set the data to "0" with 6. And then press MTS to MONO.

3) Select MPX with 1 and 4, set the data to "8" with 3 and 6.

4) Write into the memory by pressing MUTING → then ENTER.

PILOT CANCEL ADJUSTMENT (PILO)

1) Set to the Service Mode.

2) Select PILO with 1 and 4, set the data to "8" with 3 and 6.

3) Write into the memory by pressing MUTING → then ENTER.

SAP VCO f_0 ADJUSTMENT (SAPV)

1) Set to Service Mode.

2) Input a stereo broadcast signal with SAP.

3) Select TEST with 1 and 4, set the data to "0". And then, press MTS to MAIN.

4) Connect a digital multimeter to TP-1(DBX). This voltage reading will equal V 1.

5) Press MTS to SAP and this voltage will equal V 2.

6) Select SAPV with 1 and 4, adjust 3 and 6 so that V 2=V 1±0.03 VDC.

7) Write the memory by MUTING → ENTER.

SEPARATION ADJUSTMENT (SEP)

1) Set to Service Mode.

2) Press MTS to MAIN and receive a monoral broad-cast signal.

In the next step, receive a stereo broadcast signal.

3) Select SEP and VD with 1 and 4, adjust 3 and 6 so that a clear stereo sound is effected.

SUB PICTURE POSITION ADJUSTMENT (PHPO, PVPO)

1) Input a cross hatch signal.

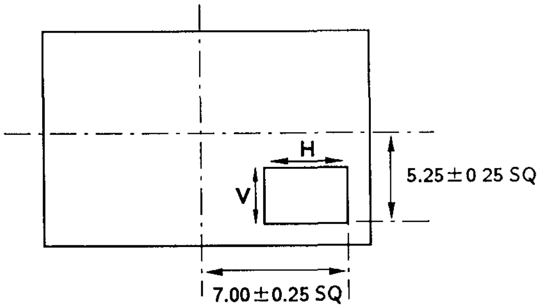
2) Set to service mode.

3) Press PIP to display a sub picture. (RIGHT LOWER Position)

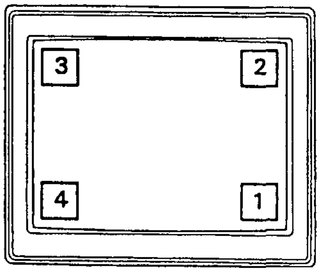
4) Select PHPO, PVPO with 1 and 4

5) Adjust 3 and 6 to the standard as shown below.

6) Write the memory by pressing MUTING → then ENTER.



Note : Before doing any Service Adjustments on the models above you must make sure that the PIP Screen is in the number 1 position, even if there are no adjustments being made to PIP.

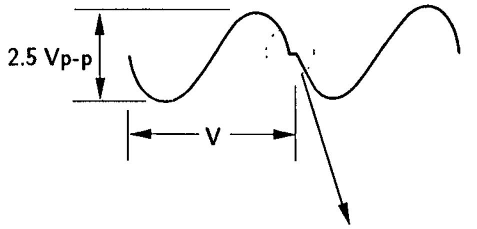


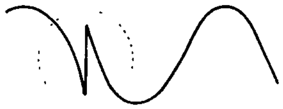
After making adjustments into the PIP 1 position, write the information into the ROM.PIP Positions Next, unplug the unit and recheck the other three positions. Adjustments made to the number 1 position will affect the other three positions.

5-3. DS BOARD ADJUSTMENTS

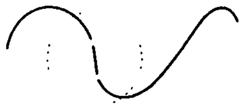
V. 3 WAVE ADJUSTMENT (RV983)

1) Input a color-bar signal.
2) Connect an oscilloscope IC1712 Pin⑦ of DS board ground.
3) Adjust RV983 as shown the following figure.





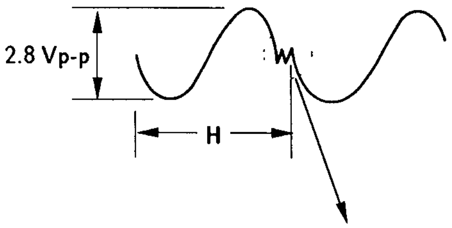
NG

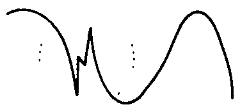


NG

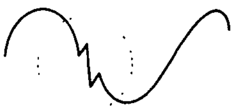
H. 3 WAVE ADJUSTMENT (RV984)

1) Input a color-bar signal.
2) Connect an oscilloscope IC1712 Pin① of DS board ground.
3) Adjust RV984 as shown the following figure.



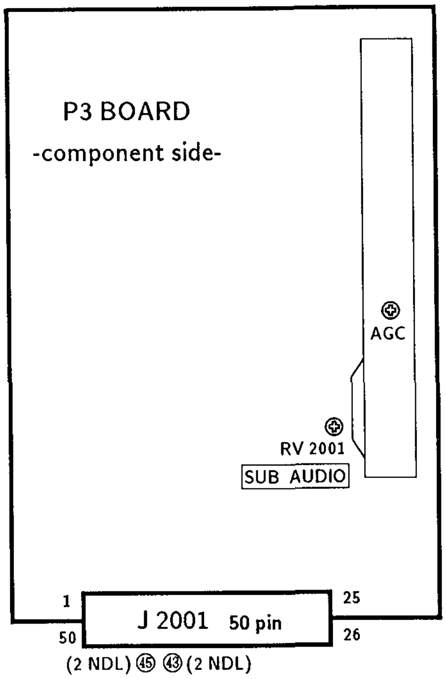


NG



NG

5-4. P3 BOARD ADJUSTMENTS


P3 BOARD
-component side-
AGC
RV 2001
SUB AUDIO
1
50
J 2001 50 pin
25
26
(2 NDL) ㊺ ㊸ (2 NDL)

RF AGC ADJUSTMENT(IF BLOCK VR)

1) Input a color-bar signal.
2) Set to PICTURE IN PICTURE mode.
3) Adjust AGC VR of TU 2001 so that snow noise and cross-modulation disappear from the picture.
4) Confirm them at every channel.

SUB PICTURE SOUND VOLUME LEVEL (SUB AUDIO) ADJUSTMENT(RV2001)

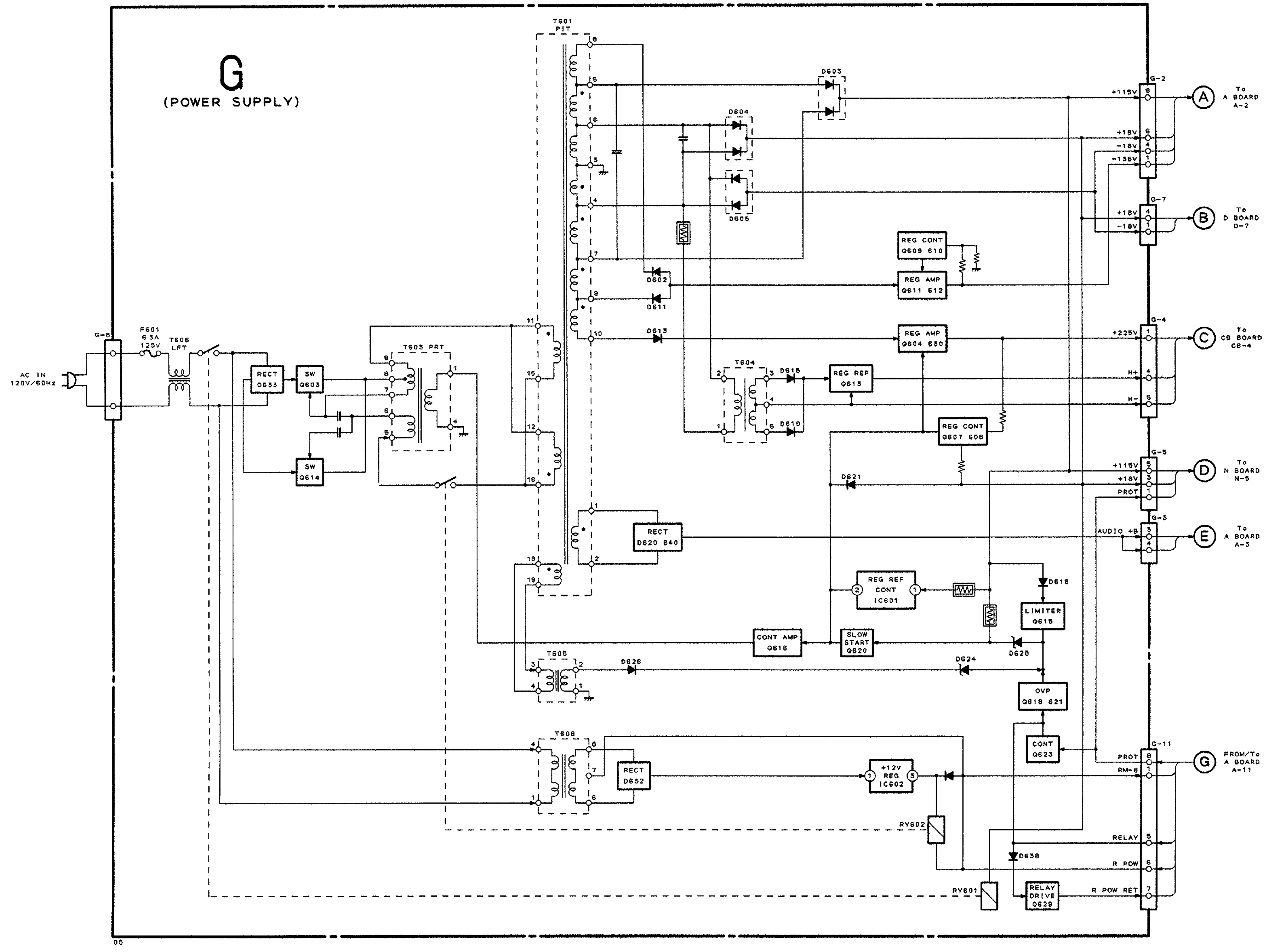
1) Receine an audio signal of 400 Hz. (100% mod.)
2) Adjust RV 2001 for the following level at Pin 43 (2 NDR) or Pin 45 (2 NDL) of J 2001.

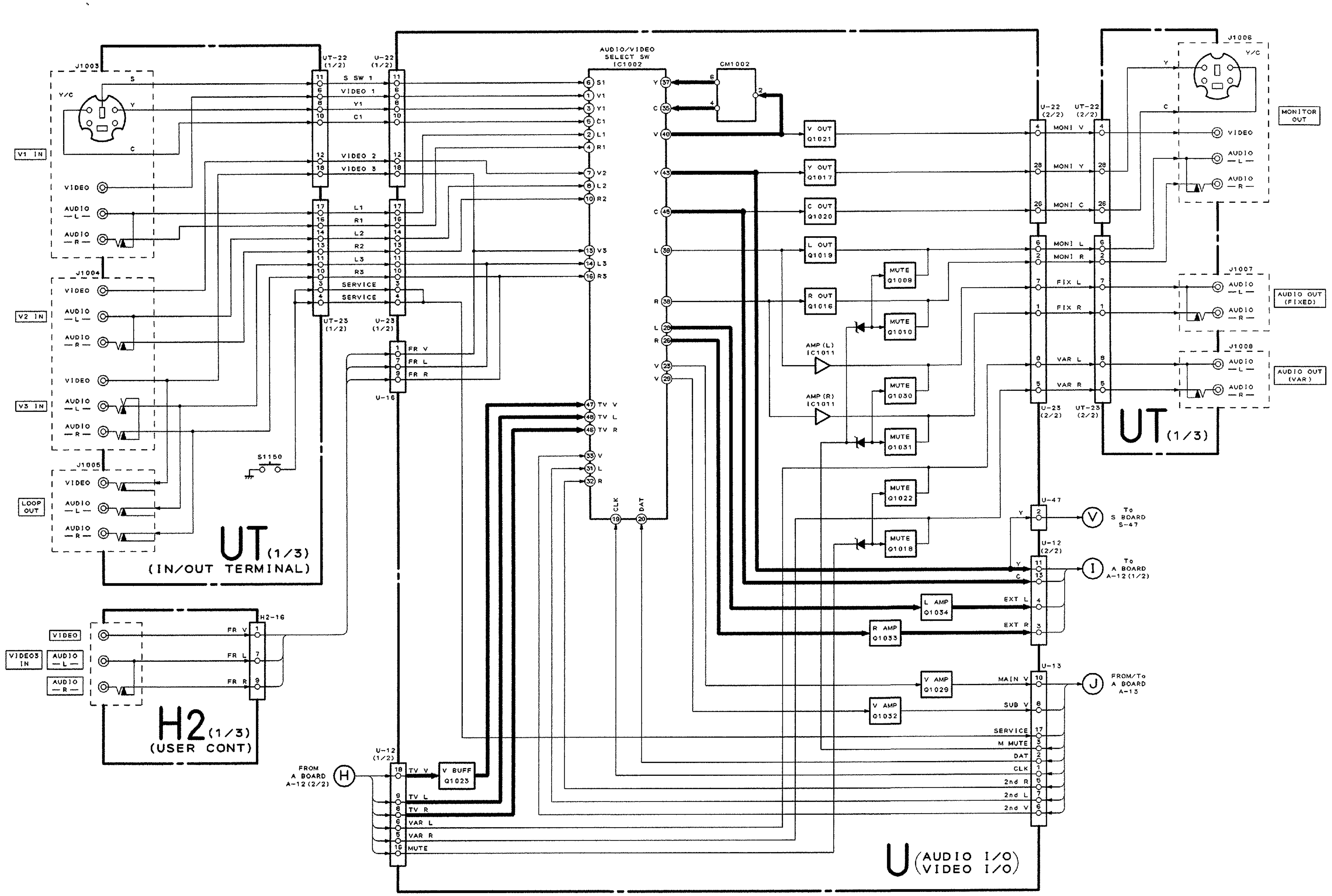
500 mVrms ± 2 dB

MEMO

SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM (1)


G
(POWER SUPPLY)
AC IN 120V/60Hz
G-8
F601 6.3A 125V
T606 LFT
RECT D633
SW Q603
SW Q614
T603 PRT
T601 PIT
D603
D604
D605
REG CONT Q609 610
REG AMP Q611 612
D602
D611
D613
REG AMP Q604 630
T604
D615
D619
REG REF Q613
REG CONT Q607 608
D621
RECT D620 640
REG REF CONT IC601
D618
LIMITER Q615
CONT AMP Q616
SLOW START Q620
D628
T605
D626
D624
OVP Q618 621
CONT Q623
T608
RECT D632
+12V REG IC602
RY602
D638
RY601
RELAY DRIVE Q625
G-2
+115V
+18V
-18V
-135V
To A BOARD A-2
G-7
+18V
-18V
To D BOARD D-7
G-4
+225V
H+
H-
To CB BOARD CB-4
G-5
+115V
+18V
PROT
To N BOARD N-5
G-3
AUDIO +B
To A BOARD A-3
G-11
PROT
RM-8
RELAY
R POW
R POW RET
FROM/To A BOARD A-11
A
B
C
D
E
G
05


UT(1/3)
(IN/OUT TERMINAL)
J1003
V1 IN
V2 IN
V3 IN
LOOP OUT
J1004
J1005
VIDEO
AUDIO —L—
AUDIO —R—
Y/C
S1150
UT-22 (1/2)
U-22 (1/2)
S SW 1
VIDEO 1
Y1
C1
VIDEO 2
VIDEO 3
L1
R1
L2
R2
L3
R3
SERVICE
UT-23 (1/2)
U-23 (1/2)
U-16
FR V
FR L
FR R
H2(1/3)
(USER CONT)
VIDEO3 IN
H2-16
AUDIO/VIDEO SELECT SW IC1002
CM1002
TV V
TV L
TV R
CLK
DAT
V OUT Q1021
V OUT Q1017
C OUT Q1020
L OUT Q1019
R OUT Q1016
MUTE Q1009
MUTE Q1010
AMP (L) IC1011
AMP (R) IC1011
MUTE Q1030
MUTE Q1031
MUTE Q1022
MUTE Q1018
L AMP Q1034
R AMP Q1033
V AMP Q1029
V AMP Q1032
V BUFF Q1023
FROM A BOARD A-12(2/2)
H
U-12 (1/2)
VAR L
VAR R
MUTE
U(AUDIO I/O VIDEO I/O)
U-22 (2/2)
UT-22 (2/2)
MONI V
MONI Y
MONI C
MONI L
MONI R
FIX L
FIX R
VAR L
VAR R
U-23 (2/2)
UT-23 (2/2)
UT(1/3)
J1006
MONITOR OUT
J1007
AUDIO OUT (FIXED)
J1008
AUDIO OUT (VAR)
U-47
To S BOARD S-47
V
U-12 (2/2)
To A BOARD A-12(1/2)
I
EXT L
EXT R
U-13
MAIN V
SUB V
SERVICE
M MUTE
DAT
CLK
2nd R
2nd L
2nd V
FROM/To A BOARD A-13
J

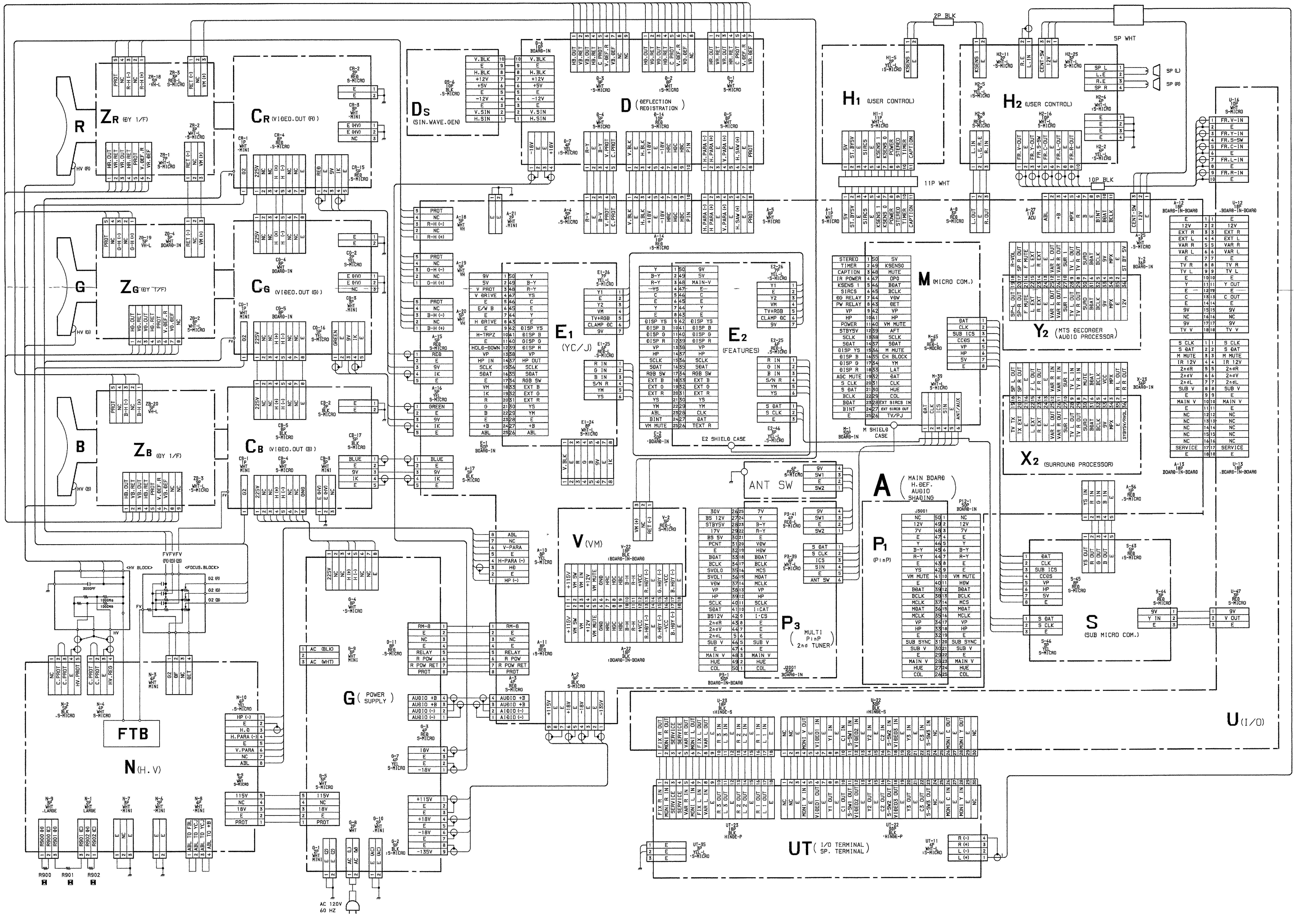
6-2. BLOCK DIAGRAM (2)

A
(Y/C JUNGLE, SHR, PINP, µ COM, AUDIO SHADING, H DEF)
M (µ COM.)
S
(SUB CONT µCOM CLOSED CAPTION DECODER)
H2 (2/3)
(USER CONT)
H1
(USER CONT)
P3 (2ND CONT, µCON FOR PIP 2ND TUNER-VIF/SIF FOR PIP ANT SW CONTROL)
ANT SW
P1
(P IN P CIRCUIT)
Y2
(MTS DECODER AUDIO CONT)
X2
(SRS SURROUND)
UT (3/3)
H2 (3/3)
E2
(SHARPNESS CONT CHARACTOR GENE)
E1
(Y/C JUNGLE)

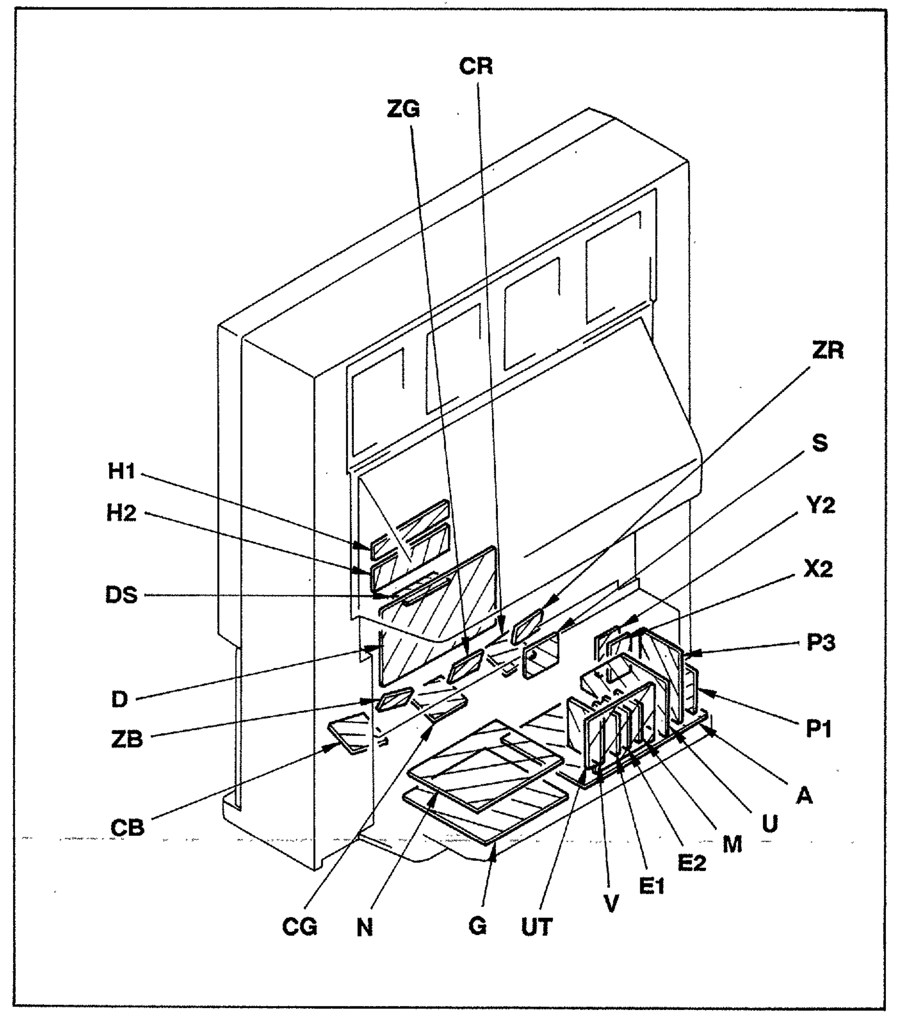
6-3. BLOCK DIAGRAM (3)

DS (H/V SIN, WAVE GEN)
D (REGISTRATION, DEFLECTION, V OUT, SUB OUT)
MULTIPLIER
ZR (R DY IF)
ZG (G DY IF)
ZB (B DY IF)
V (VM AMP)
N (HV)
HV BLOCK
FOCUS BLOCK
CR (R OUT)
CG (G OUT)
CB (B OUT)
V901 PICTURE TUBE
V902 PICTURE TUBE
V903 PICTURE TUBE

6-4. FRAME SCHEMATIC DIAGRAM


ZR (BY 1/F)
CR (VIDEO.OUT (R))
DS (SIN.WAVE.GEN)
D (DEFLECTION REGISTRATION)
H1 (USER CONTROL)
H2 (USER CONTROL)
ZG (BY 1/F)
CG (VIDEO.OUT (G))
E1 (YC/J)
E2 (FEATURES)
M (MICRO COM.)
Y2 (MTS DECORDER AUDIO PROCESSOR)
X2 (SURROUND PROCESSOR)
ZB (BY 1/F)
CB (VIDEO.OUT (B))
ANT SW
A (MAIN BOARD H.DEF. AUDIO SHADING)
V (VM)
P1 (PinP)
P3 (MULTI PinP 2nd TUNER)
S (SUB MICRO COM.)
G (POWER SUPPLY)
FTB
N (H.V)
U (I/O)
UT (I/O TERMINAL SP. TERMINAL)
<HV BLOCK>
<FOCUS.BLOCK>
2P BLK
5P WHT
11P WHT
10P BLK
SP (L)
SP (R)
E2 SHIELD CASE
M SHIELD CASE
R900
R901
R902
AC 120V 60 HZ

6-5. CIRCUIT BOARDS LOCATION


CR
ZG
ZR
H1
H2
S
Y2
X2
DS
P3
D
ZB
P1
A
U
CB
M
E2
E1
V
CG
N
G
UT

6-6. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms. kΩ =1000Ω , MΩ =1000kΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm Rating electrical power ¼ W

- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ☐ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-chassis.
- The components identified by ☒ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ☒ and repeat the adjustment until the specified value is achieved. (Refer to R652, R852, R900, R901, and R902 adjustment on Page 53~56)
  When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (◪)		Adjustment (☒)
HV Block IC803, IC805, D805, D807, C817, C818, C821, C836, C837, R824, R825, R827, R828, R834, R835, R836, R864, R865, R866, R902	N Board	HV Regurater (R902)
HV Block IC803, IC804, Q804, D806, D808, C809, C819, C820, C822, C823, C850, R807, R826, R829, R832, R833, R837, R838, R839, R840, R841, R892, R893, R900, R901	N Board	HV Hold down (R900, R901)
Q618, Q621, D628, C634, R639, R649, R652, R655, R656	G Board	OVP (R652)
① IC802, Q805, Q807, D811, D812, C810, C824, C825, C826, C827, C831, R810, R843, R844, R847, R848, R849, R850, R851, R852, R853, R854, R881	N Board	Beam current protecter ① R852 ② R852
② IC804, Q804, Q808, D808, D809, C809, C828, C829, C830, C831, R807, R839, R840, R841, R847, R848, R849, R850, R851, R852, R855, R856, R857, R881	N Board	

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a color-bar signal input.
- Readings are taken with a 10MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
  ∗ : Can not be measured.
- Circled numbers are waveform references.
- ━━━ : B+ bus.
- ━ ━ ━ : B− bus.
- ▨▷ : signal path. (RF)

Note: The symbol ⊞ display is on the component side.

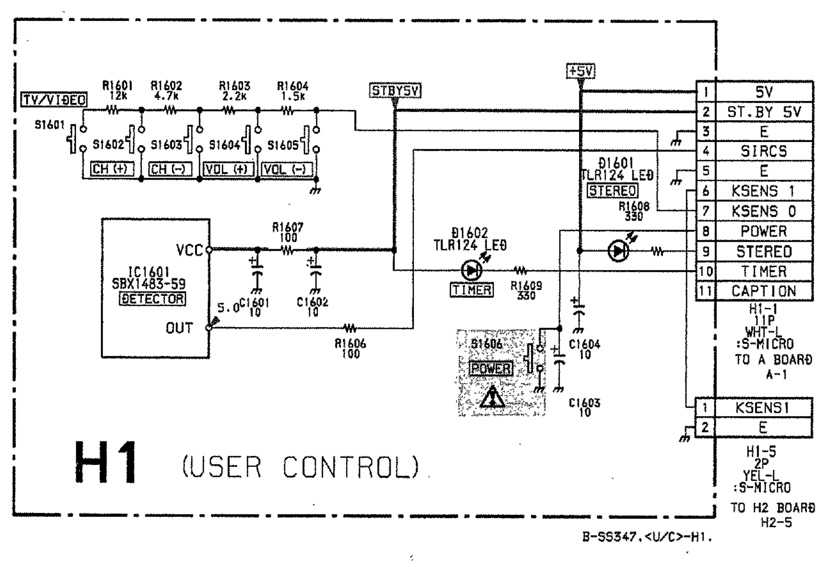
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

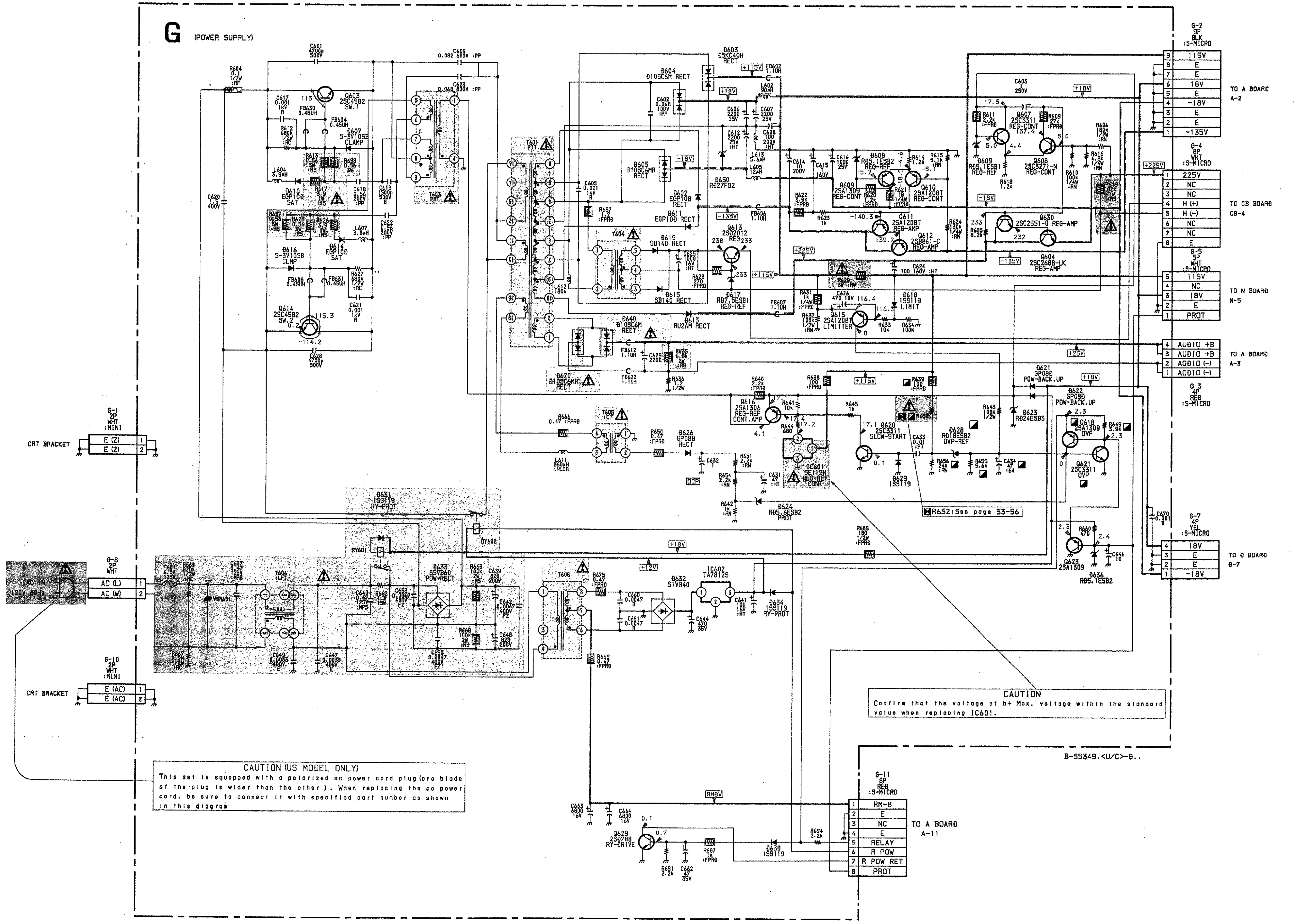
The symbol ⊞ indicate fast operating fuse. Replace only with fuse of same rating as marked.

Note: Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Le symbole ⊞ indique une fusible a action rapide. Doit etre remplacee par une fusible de meme yaleur, comme maque.

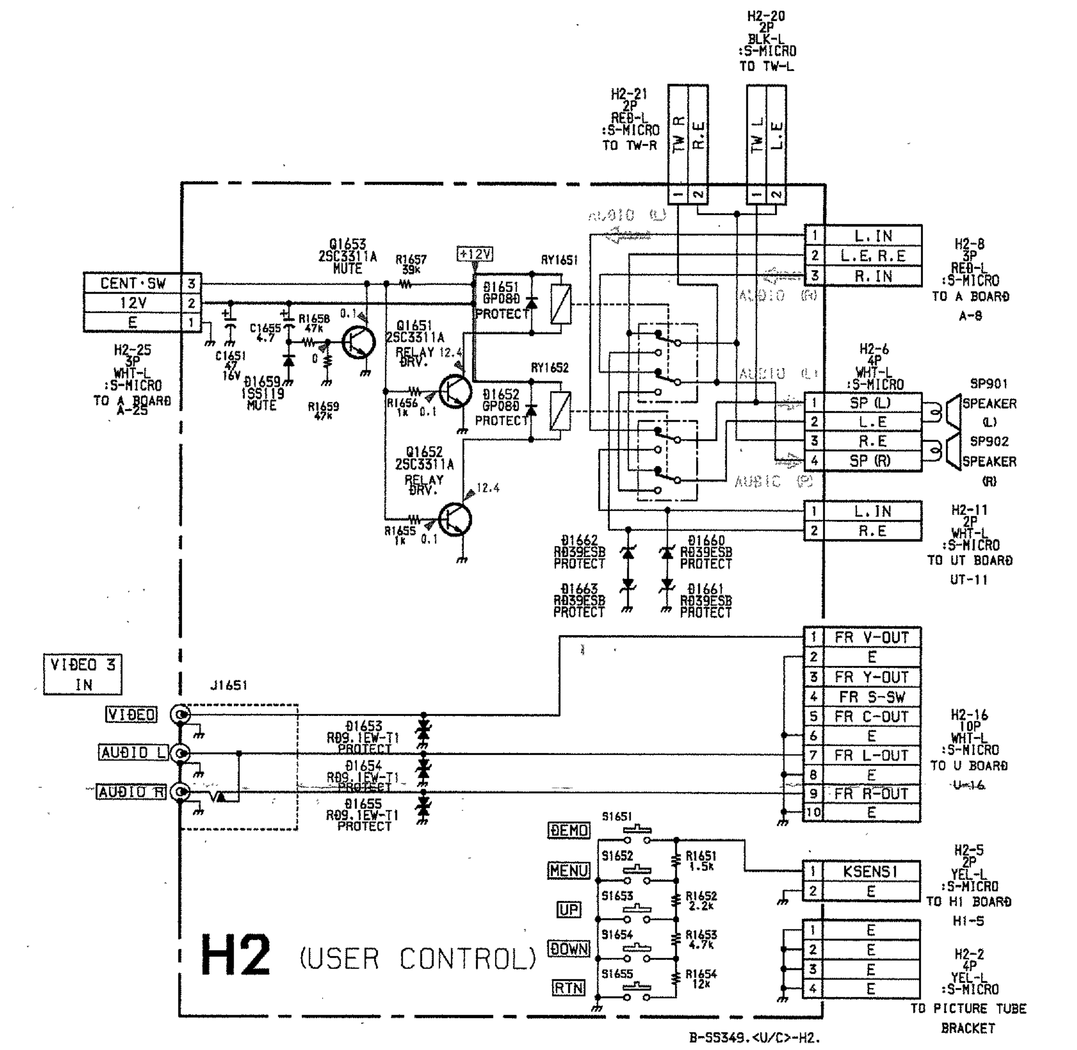
(1) SCHEMATIC DIAGRAMS OF G, H1, H2 AND DS BOARDS

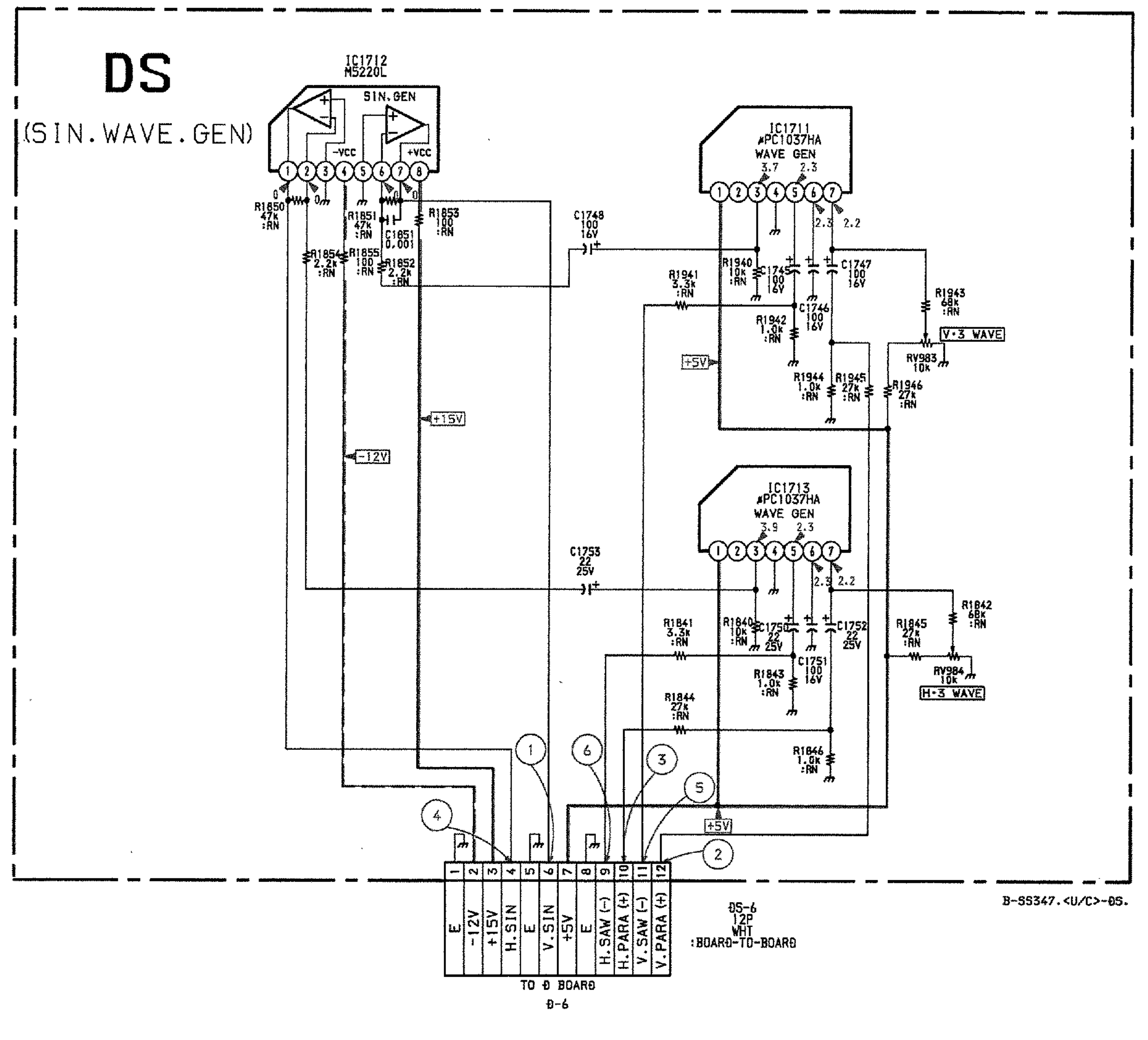

H1 (USER CONTROL)
IC1601 SBX1483-59 DETECTOR
D1601 TLR124 LED
D1602 TLR124 LED
1 5V
2 ST.BY 5V
3 E
4 SIRCS
5 E
6 KSENS 1
7 KSENS 0
8 POWER
9 STEREO
10 TIMER
11 CAPTION
TO A BOARD A-1
TO H2 BOARD H2-5
B-SS347.<U/C>-H1.


G (POWER SUPPLY)
CRT BRACKET
AC (L)
AC (W)
TO A BOARD A-2
TO CB BOARD CB-4
TO N BOARD N-5
TO A BOARD A-3
TO D BOARD D-7
TO A BOARD A-11
RM-B
RELAY
R POW
R POW RET
PROT
R652:See page 53-56
B-SS349.<U/C>-G..

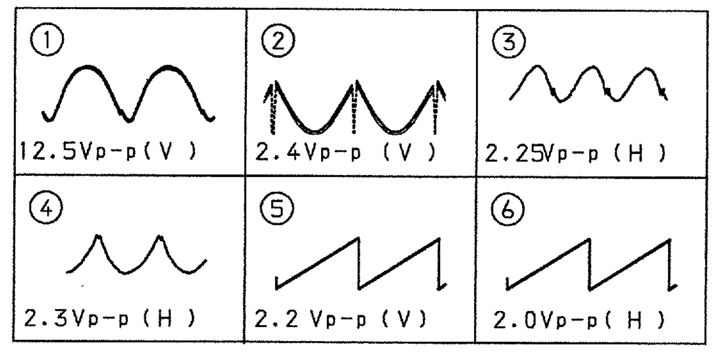
CAUTION (US MODEL ONLY)
This set is squopped with a polarized ac power cord plug (one blade of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram

CAUTION
Confirm that the voltage of b+ Max. voltage within the standard value when replacing IC601.


H2 (USER CONTROL)
CENT-SW 12V E
VIDEO 3 IN
VIDEO
AUDIO L
AUDIO R
SPEAKER (L)
SPEAKER (R)
TO A BOARD A-8
TO UT BOARD UT-11
TO U BOARD U-14
TO H1 BOARD H1-5
TO PICTURE TUBE BRACKET
B-SS349.<U/C>-H2.

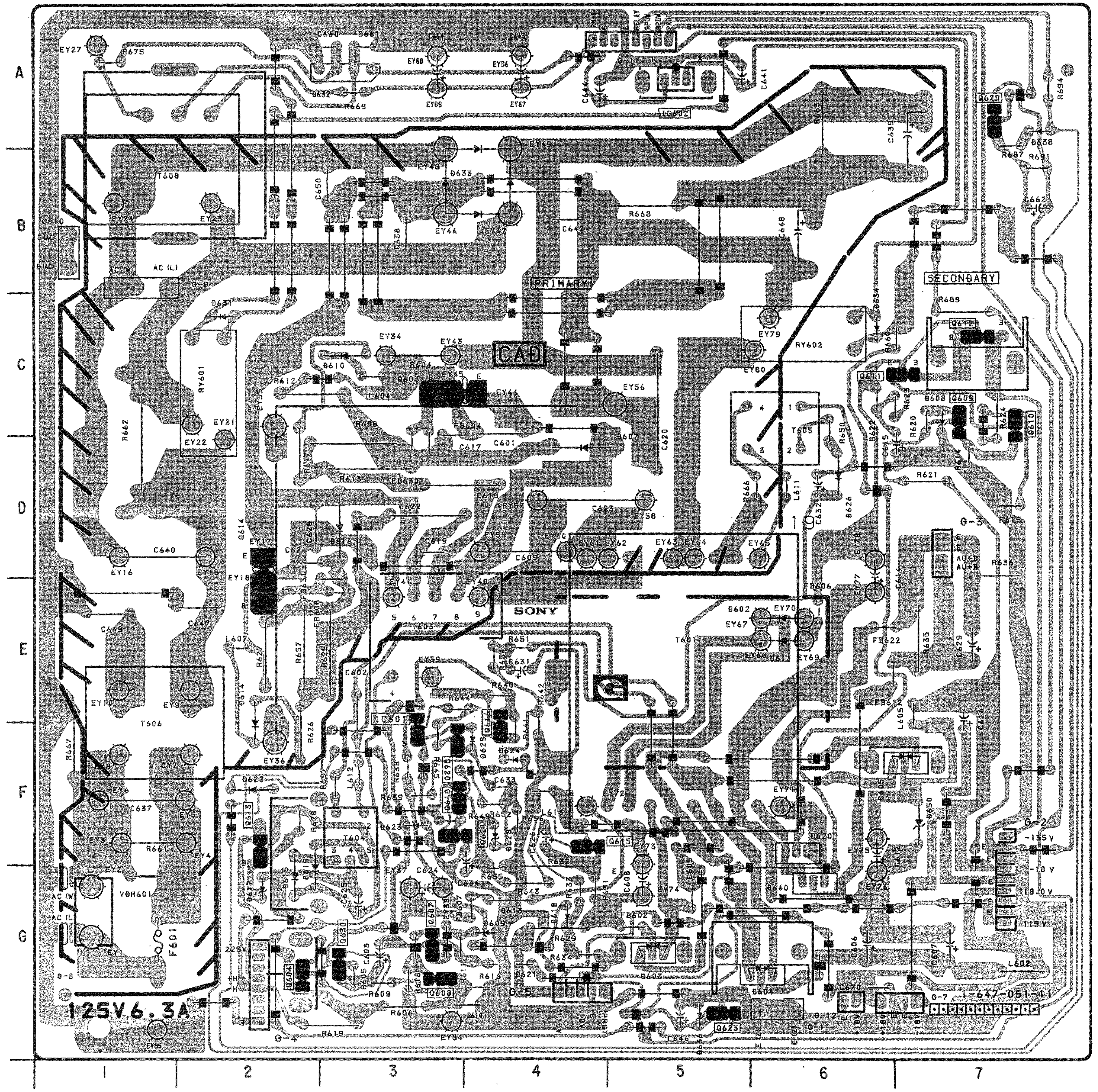

DS (SIN.WAVE.GEN)
IC1712 NJM2100
IC1711 μPC1037HA WAVE GEN
IC1713 μPC1037HA WAVE GEN
V-S WAVE
H-S WAVE
TO D BOARD D-6
:BOARD-TO-BOARD
B-SS347.<U/C>-DS.

• DS BOARD WAVEFORMS



G [POWER SUPPLY] **H1** [USER CONTROL] **H2** [USER CONTROL] **Ds** [SIIN,WAVE, GEN]

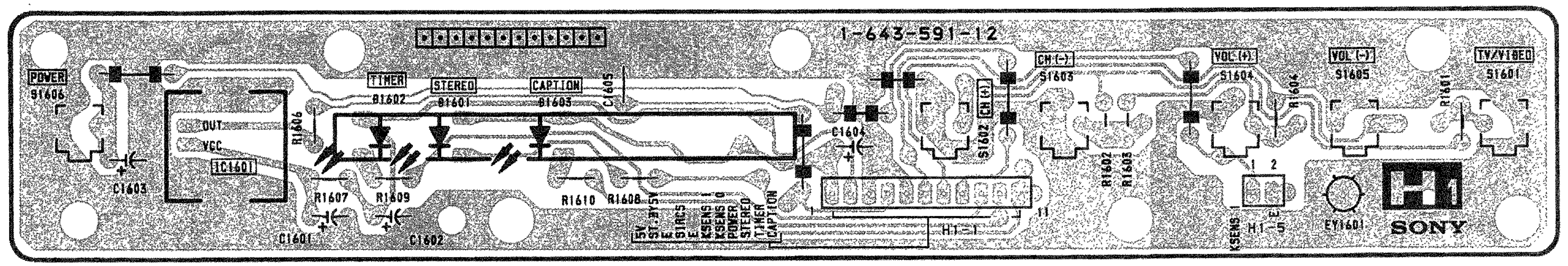
– G Board –


A
B
C
D
E
F
G
1
2
3
4
5
6
7
PRIMARY
SECONDARY
CAD
SONY
T608
T606
T605
T604
T603
RY601
RY602
IC601
IC602
F601
VDR601
AC (L)
AC (N)
125V6.3A
-647-051-11
135V
18V
115V

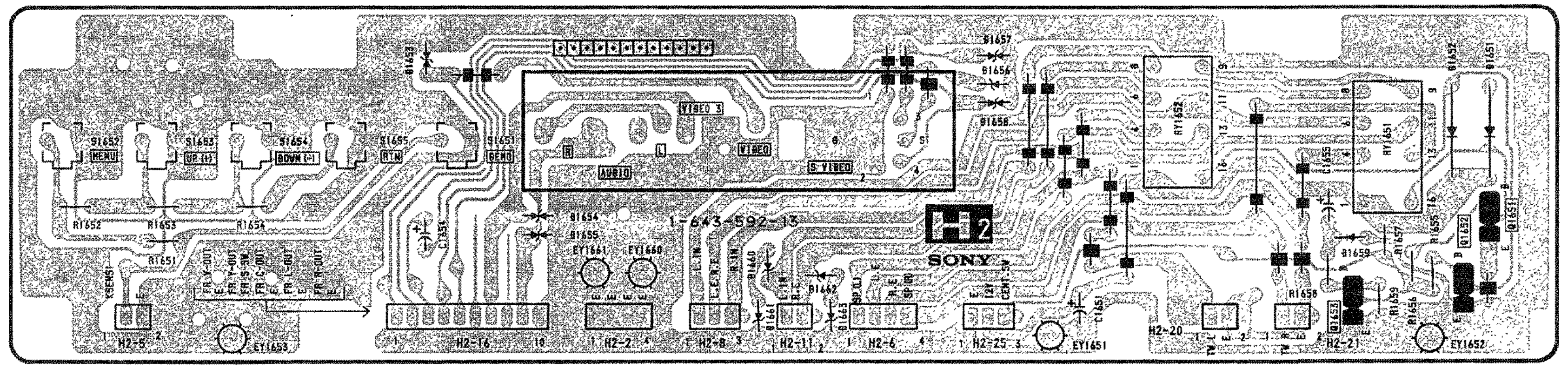
G Board

IC	
IC601	E-3
IC602	A-5
TRANSISTOR	
Q603	C-3
Q604	G-2
Q607	G-3
Q608	G-3
Q609	C-7
Q610	C-7
Q611	C-7
Q612	C-7
Q613	F-2
Q614	D-2
Q615	F-4
Q616	E-4
Q618	F-3
Q620	F-3
Q621	F-3
Q623	G-5
Q629	A-7
Q630	G-3
DIODE	
D602	E-6
D603	G-5
D604	G-6
D605	F-7
D607	D-4
D608	C-7
D609	G-4
D610	C-3
D611	E-6
D613	G-4
D614	E-2
D615	G-2
D616	D-3
D617	G-2
D618	G-4
D619	F-2
D620	F-6
D621	G-4
D622	F-2
D623	F-3
D624	F-4
D626	D-6
D628	F-4
D629	F-4
D631	C-2
D632	A-3
D633	B-4
D634	C-6
D636	G-5
D638	A-7
D640	G-6
D650	F-7

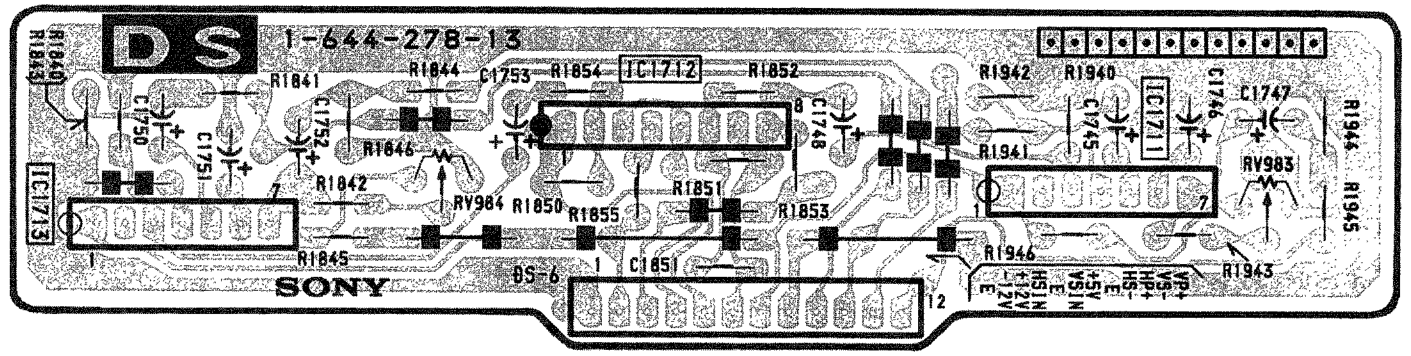
– H1 Board –


1-643-591-12
POWER
S1606
TIMER
STEREO
CAPTION
IC1601
CH(-)
S1603
CH(+)
S1602
VOL(+)
S1604
VOL(-)
S1605
TV/VIDEO
S1601
H1-1
H1-5
EY1601
H1
SONY

– H2 Board –


1-643-592-13
H2
SONY
H2-5
H2-16
H2-2
H2-8
H2-11
H2-6
H2-25
H2-20
H2-21
EY1651
EY1652

– DS Board –

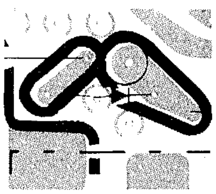

DS
1-644-278-13
IC1712
IC1711
IC1713
R1841
R1844
C1753
R1854
R1852
R1942
R1940
C1747
R1842
R1846
RV984
R1850
R1855
R1851
R1853
R1941
RV983
R1943
R1944
R1945
R1845
R1946
DS-6
SONY

A Board

IC	
IC201	D-5
IC204	D-6
IC205	E-1
IC206	B-6
IC207	A-2
IC506	G-9
IC1401	C-5
IC1601	F-9

TRANSISTOR	
Q201	C-4
Q202	G-3
Q203	G-9
Q501	C-9
Q502	B-9
Q504	G-7
Q505	C-9
Q506	C-9
Q507	D-10
Q508	B-10
Q509	G-8
Q510	C-8
Q511	A-2
Q512	A-2
Q1401	B-4
Q1402	C-7
Q1407	B-5
Q1408	B-4
Q1601	E-9
Q1602	E-10
Q1603	E-10
Q1604	E-10
Q1605	E-9
Q1606	E-9
Q1620	D-8

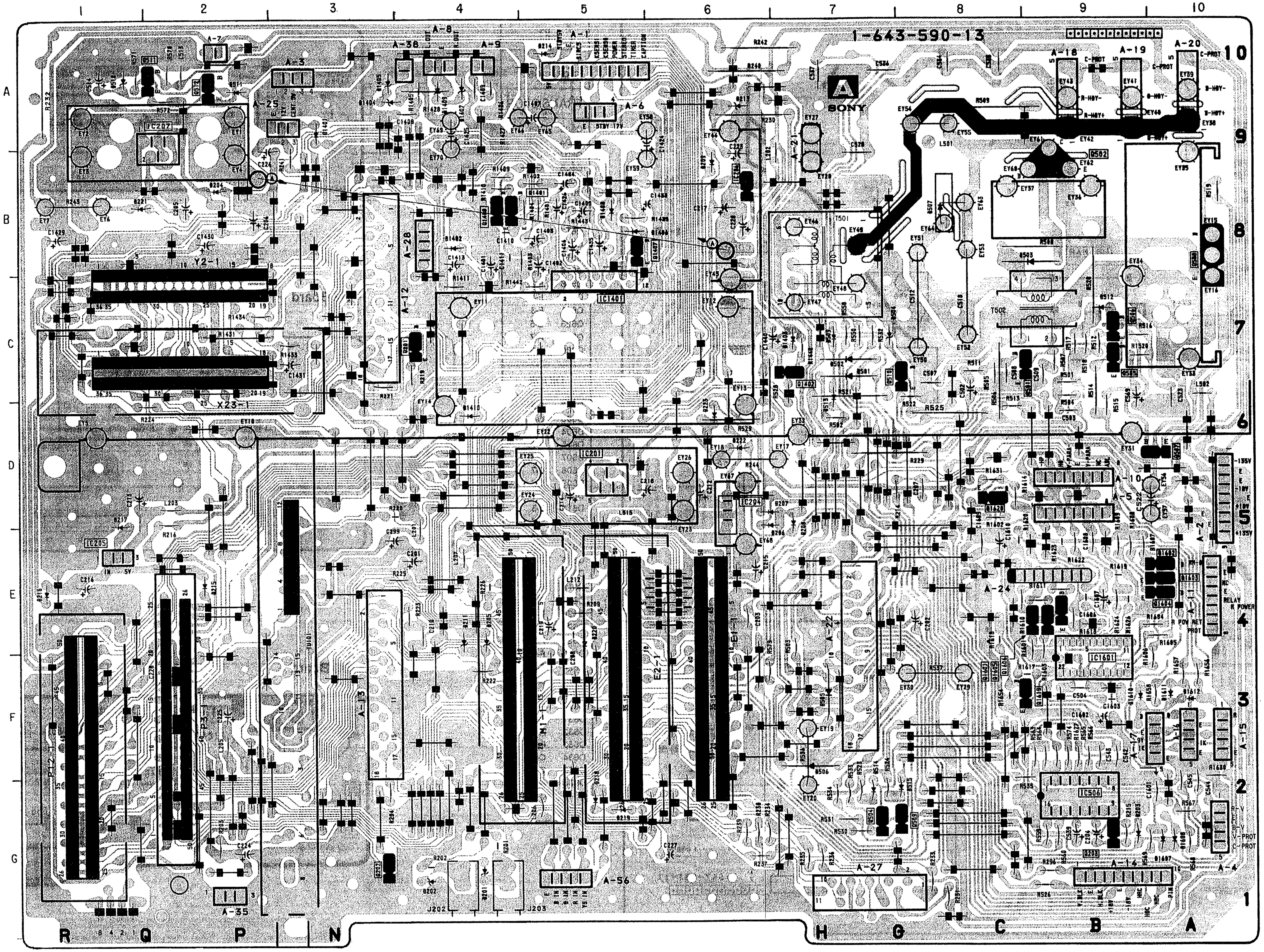
DIODE	
D203	G-9
D204	B-2
D205	E-4
D206	D-7
D207	D-7
D208	E-7
D209	B-6
D211	E-4
D213	A-6
D214	A-5
D215	E-2
D216	E-1
D217	E-1
D219	G-5
D220	E-5
D221	B-1
D222	D-6
D223	D-6
D501	C-7
D502	C-7
D503	B-9
D504	C-7
D505	F-7
D506	F-7
D507	B-8
D509	C-7
D510	A-1
D511	A-2
D512	C-9
D513	D-7
D514	G-7
D515	G-8
D1401	A-3
D1402	B-4
D1403	C-7
D1404	A-3
D1405	A-3
D1406	B-5
D1407	A-4
D1408	B-5
D1409	A-4
D1410	D-4
D1607	G-10
D1608	G-10



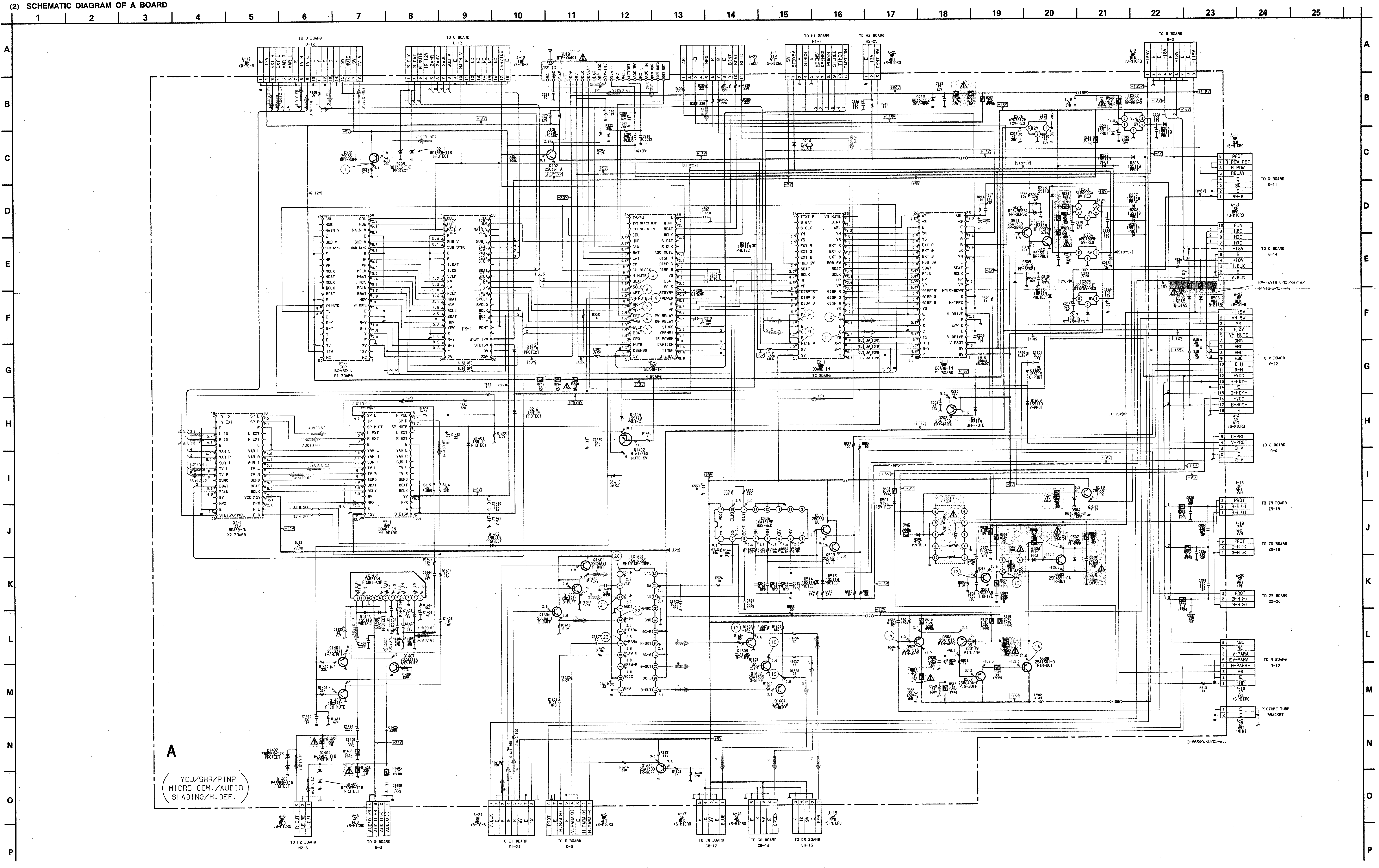
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

A YCJ/SHR/PINP,
MICRO COM./AUDIO,
SHADING/H. DEF.

– A Board –

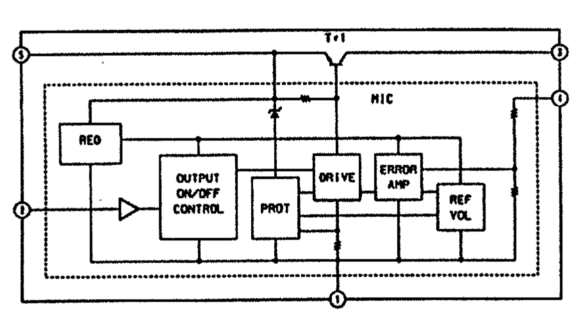

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
1-643-590-13
SONY
IC207
IC1401
IC201
IC204
IC205
IC1601
IC506
T501
T502
L501
L502
X23-1
Y2-1
A-1
A-2
A-3
A-6
A-7
A-8
A-9
A-10
A-11
A-12
A-13
A-14
A-15
A-16
A-18
A-19
A-20
A-21
A-22
A-24
A-25
A-27
A-28
A-35
A-38
A-56
J202
J203
STBY-12V
C-PROT
B-HBY-
B-HBY+
R-HBY-
R-HBY+
+135V
RELAY
R POWER
V-PROT
R
Q
P
N
H
G
C
B
A

(2) SCHEMATIC DIAGRAM OF A BOARD



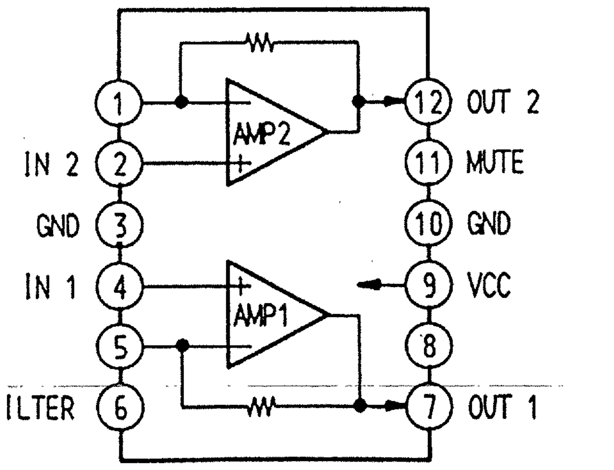
A
YCJ/SHR/PINP
MICRO COM./AUDIO
SHADING/H.DEF.
TO U BOARD U-12
TO U BOARD U-13
TO H1 BOARD H1-1
TO H2 BOARD H2-25
TO G BOARD G-2
TO G BOARD G-11
TO G BOARD G-14
TO V BOARD V-22
TO G BOARD G-4
TO ZR BOARD ZR-18
TO ZG BOARD ZG-19
TO ZB BOARD ZB-20
TO N BOARD N-10
PICTURE TUBE BRACKET
TO H2 BOARD H2-8
TO G BOARD G-3
TO E1 BOARD E1-24
TO G BOARD G-5
TO CB BOARD CB-17
TO CG BOARD CG-16
TO CR BOARD CR-15
IC1601 CXA1454AS SHADING-COMP.
IC1401 TA8216H FRONT-AMP
IC201 SI-3090CA 9V-REG
IC204 μPC7812H 12V-REG
IC504 CXA1365P DEF-SIG/P

A Board IC201, 207 SI-3090CA



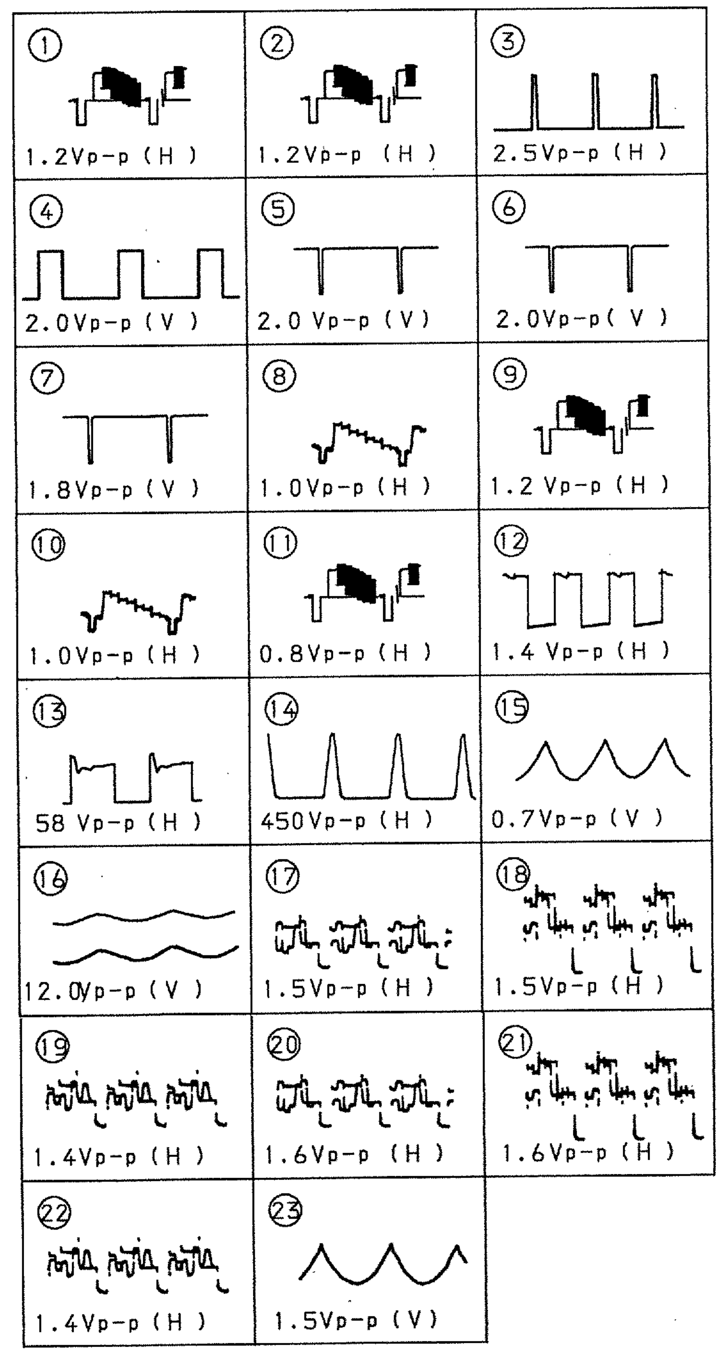
REG
OUTPUT ON/OFF CONTROL
PROT
DRIVE
ERROR AMP
REF VOL

A Board IC401 TA8216H

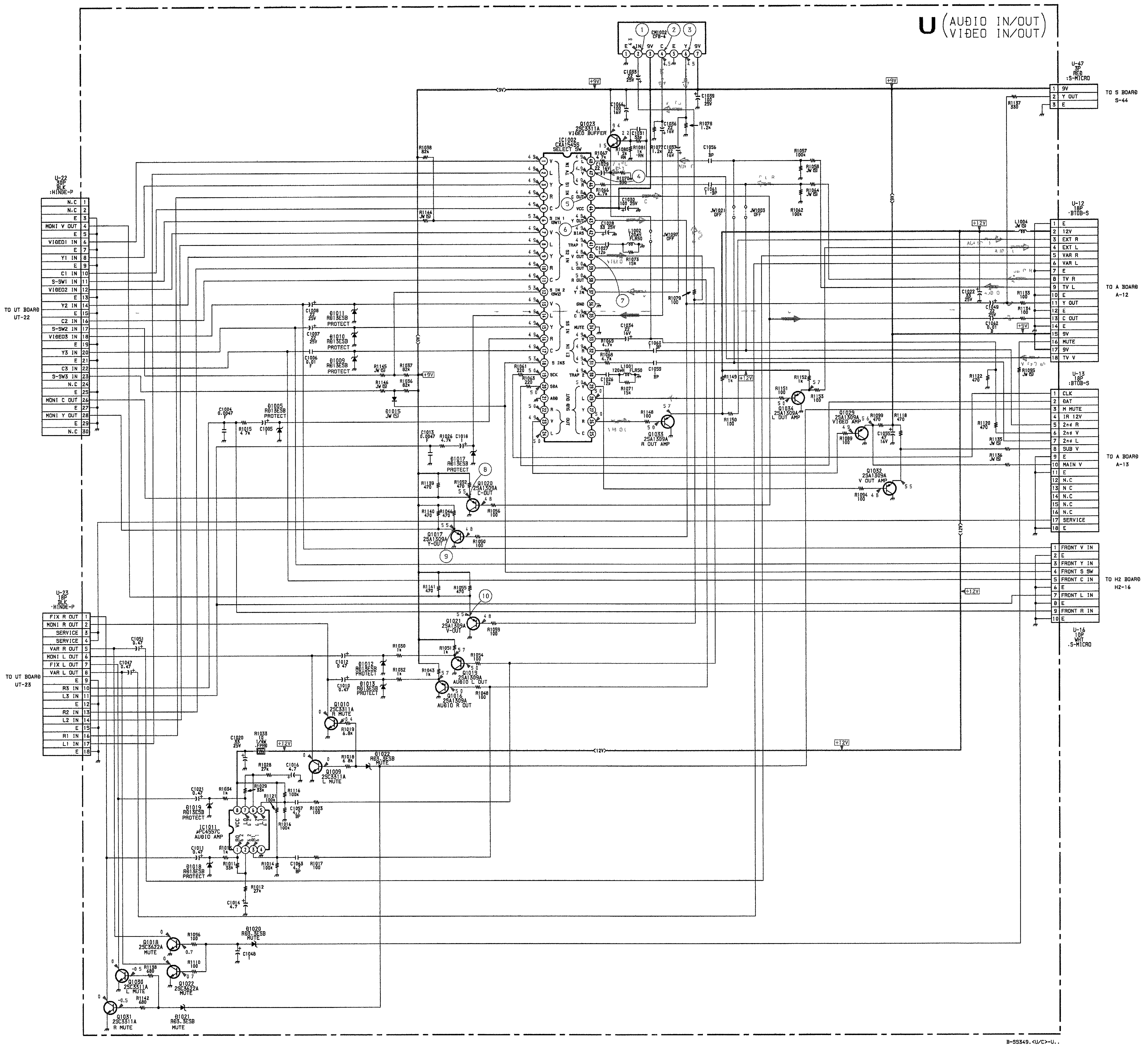


1
IN 2
2
GND
3
IN 1
4
5
RIPPLE FILTER
6
AMP2
AMP1
12
OUT 2
11
MUTE
10
GND
9
VCC
8
7
OUT 1

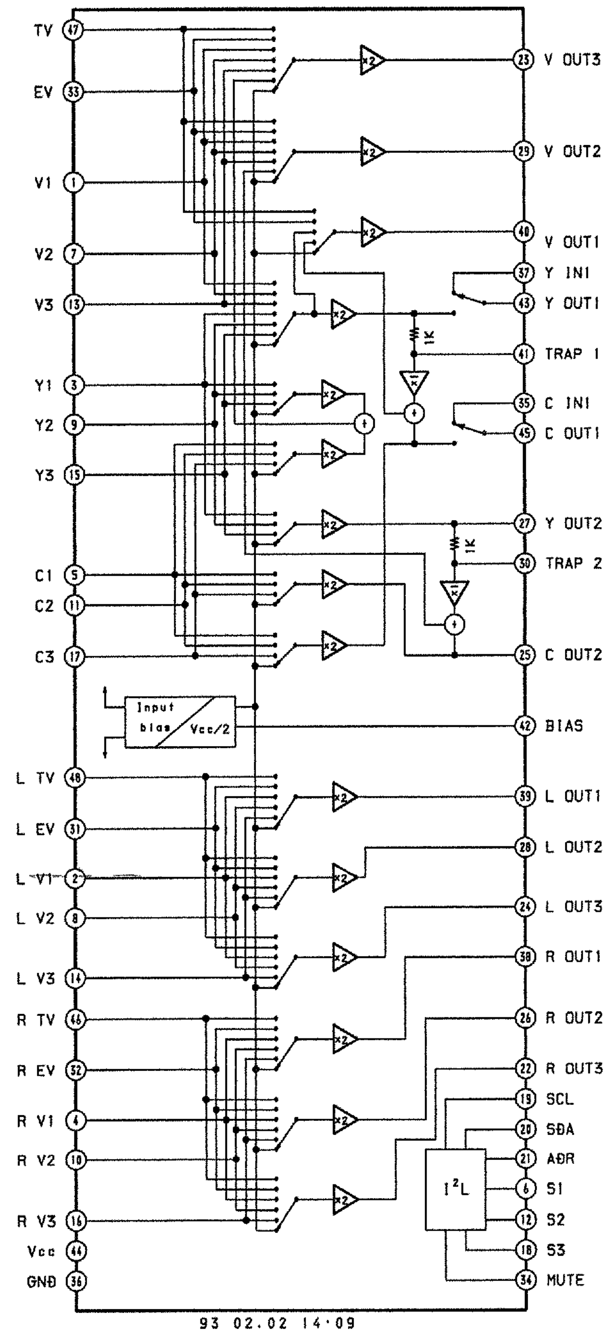
- **A BOARD WAVEFORMS**



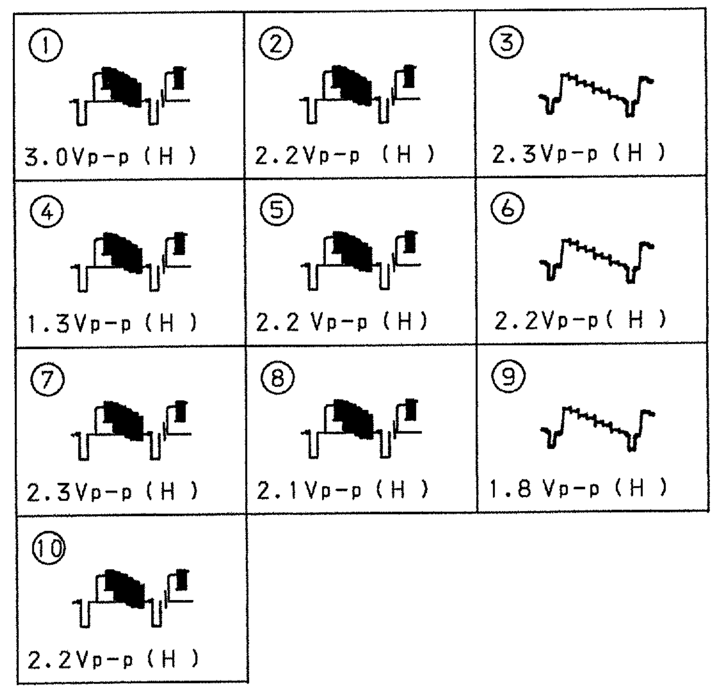
(3) SCHEMATIC DIAGRAMS OF U, UT BOARDS

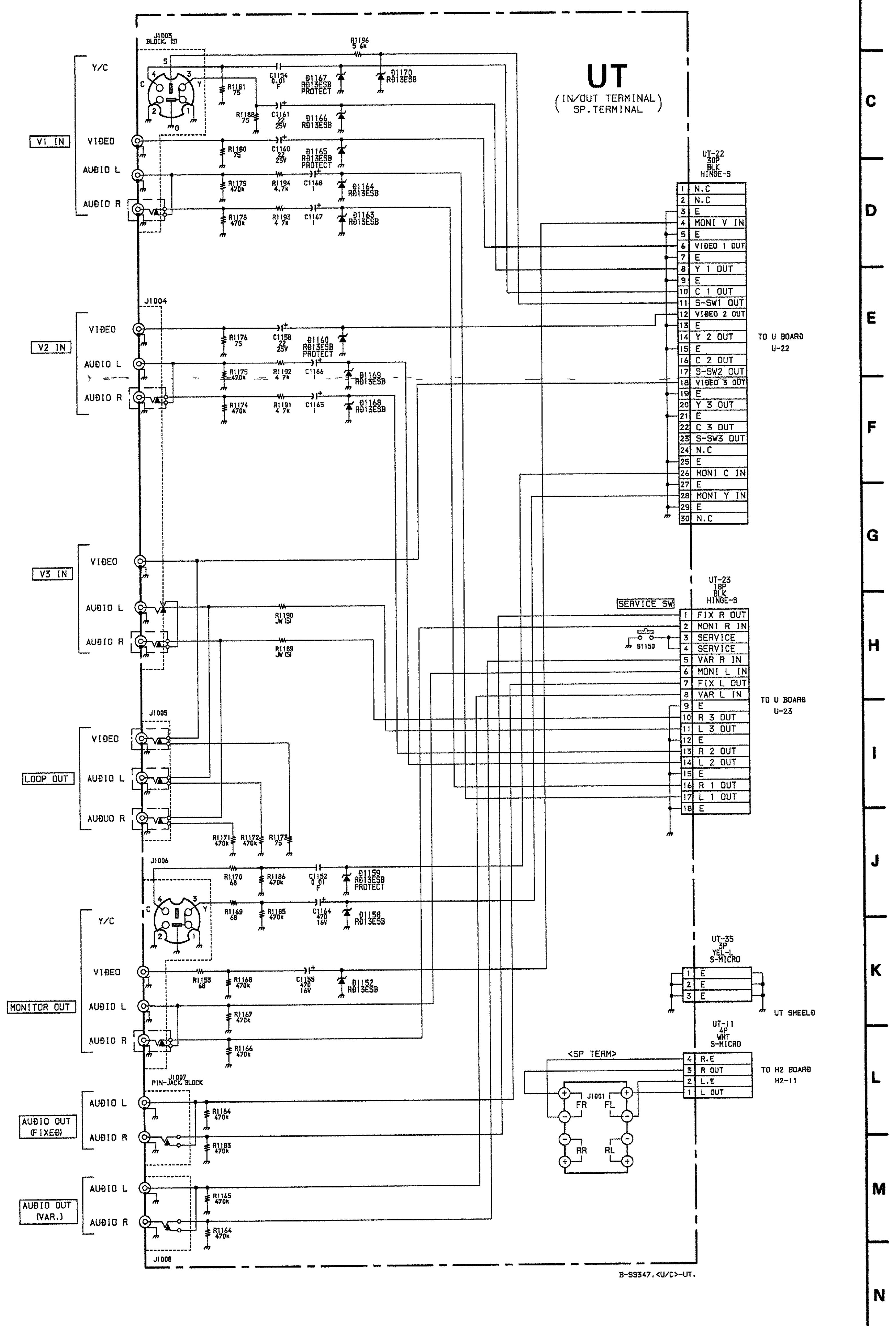

U (AUDIO IN/OUT VIDEO IN/OUT)
TO UT BOARD UT-22
TO UT BOARD UT-23
TO S BOARD S-44
TO A BOARD A-12
TO A BOARD A-13
TO H2 BOARD H2-16
IC1002 CXA1545S SELECT SW
IC1011 μPC4557C AUDIO AMP
Q1023 2SC3311A VIDEO BUFFER
Q1033 2SA1309A R OUT AMP
Q1034 2SA1309A L OUT AMP
Q1025 2SA1309A VIDEO AMP
Q1032 2SA1309A V OUT AMP
Q1020 2SA1309A C-OUT
Q1017 2SA1309A Y-OUT
Q1021 2SA1309A V-OUT
Q1019 2SA1309A AUDIO L OUT
Q1016 2SA1309A AUDIO R OUT
Q1010 2SC3311A R MUTE
Q1009 2SC3311A L MUTE
Q1018 2SC3622A MUTE
Q1022 2SC3622A MUTE
Q1030 2SC3311A L MUTE
Q1031 2SC3311A R MUTE
B-SS349.<U/C>-U..

U Board IC1002 CXA1545S


TV
EV
V1
V2
V3
Y1
Y2
Y3
C1
C2
C3
L TV
L EV
L V1
L V2
L V3
R TV
R EV
R V1
R V2
R V3
Vcc
GND
V OUT3
V OUT2
V OUT1
Y IN1
Y OUT1
TRAP 1
C IN1
C OUT1
Y OUT2
TRAP 2
C OUT2
BIAS
L OUT1
L OUT2
L OUT3
R OUT1
R OUT2
R OUT3
SCL
SDA
ADR
S1
S2
S3
MUTE
Input bias Vcc/2
I²L
93 02.02 14:09

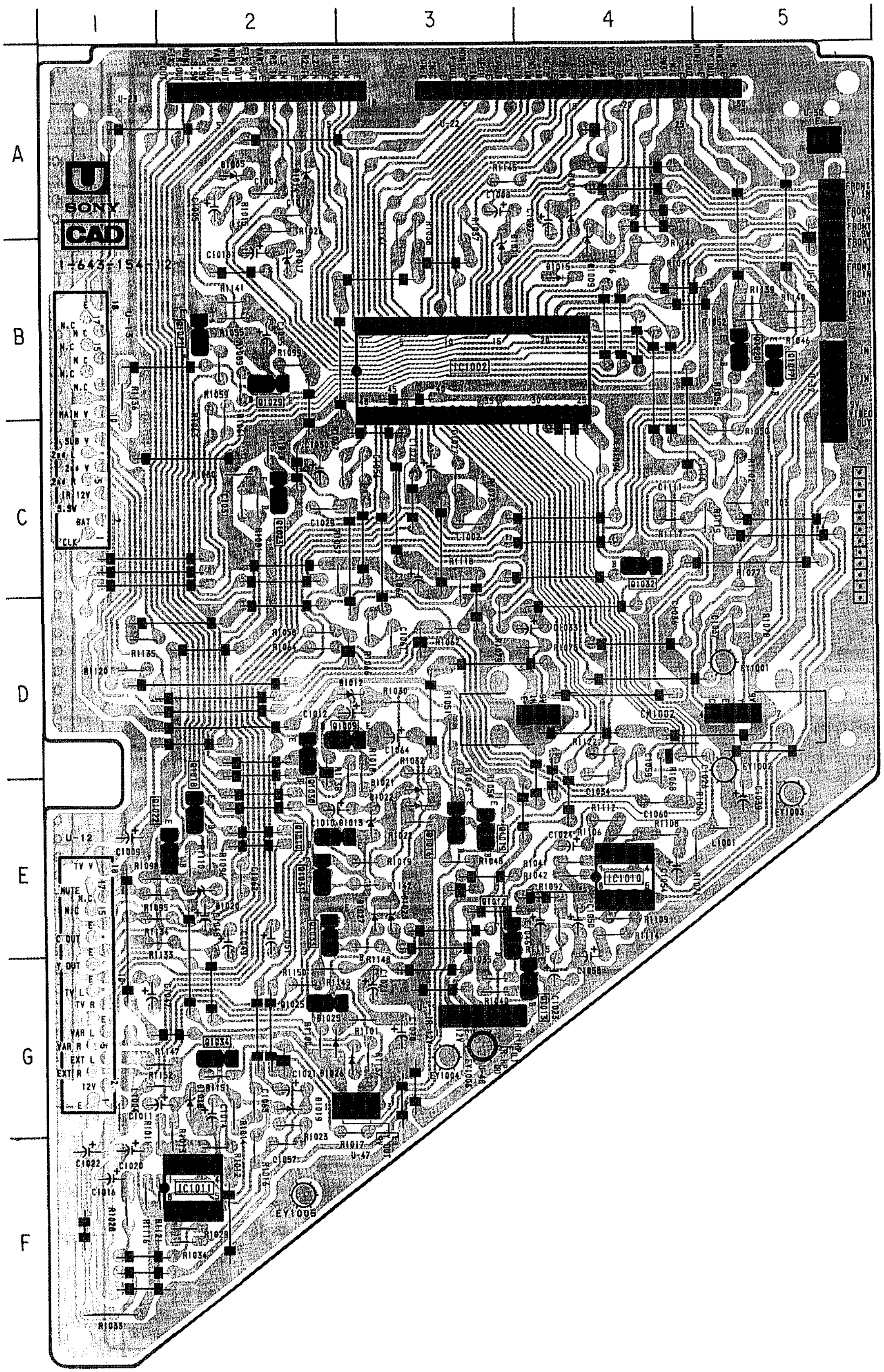
● U BOARD WAVEFORMS




UT (IN/OUT TERMINAL SP.TERMINAL)
V1 IN
V2 IN
V3 IN
LOOP OUT
MONITOR OUT
AUDIO OUT (FIXED)
AUDIO OUT (VAR.)
SERVICE SW
<SP TERM>
TO U BOARD U-22
TO U BOARD U-23
TO H2 BOARD H2-11
UT SHEELD
B-SS347.<U/C>-UT.

U [AUDIO IN/OUT, VIDEO IN/OUT]

– U Board –

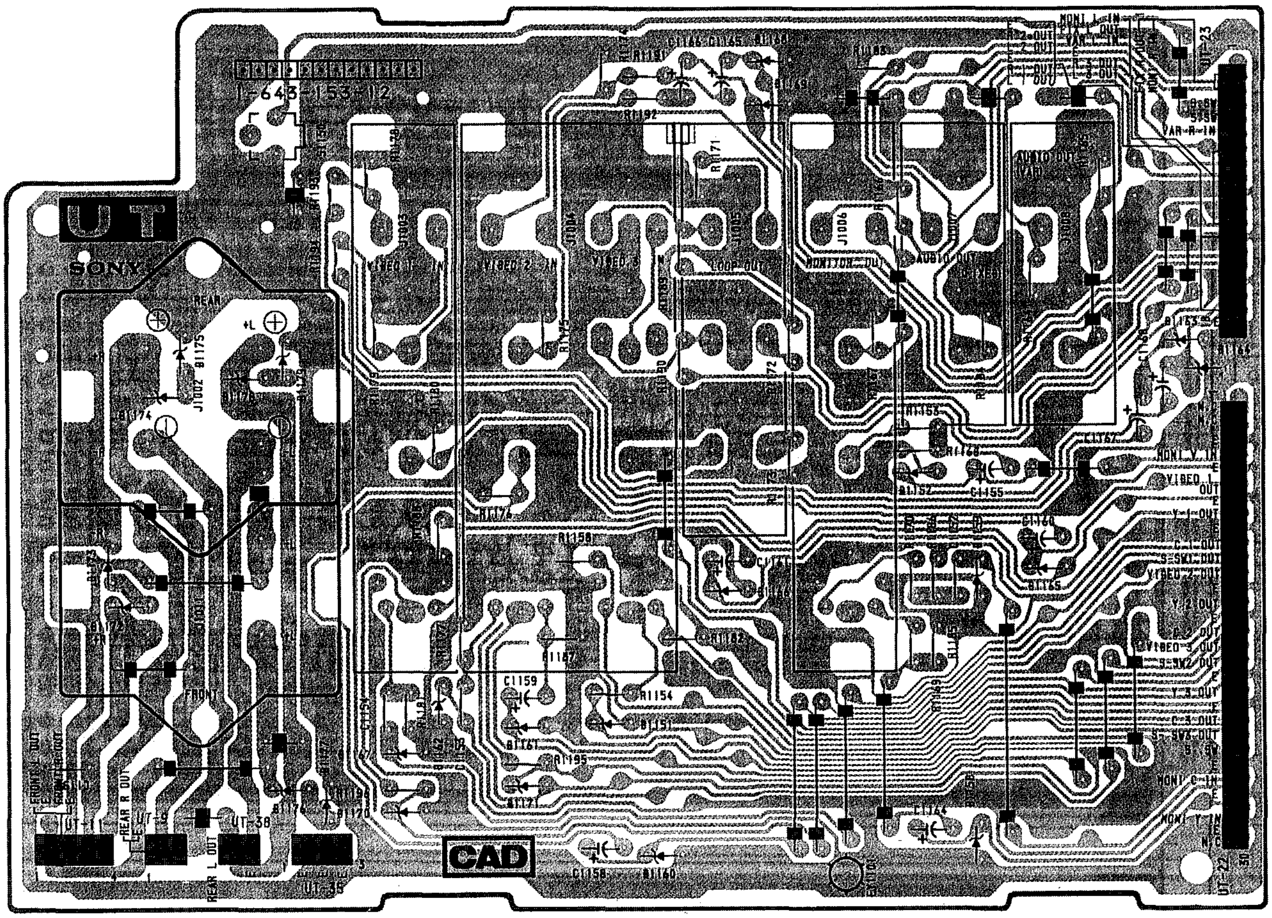

1
2
3
4
5
A
B
C
D
E
G
F
U
SONY
CAD
1-643-154-12
IC1002
IC1011
CN1002
IC1010
EY1001
EY1002
EY1003
EY1004
EY1005
EY1006
Q1009
Q1021
Q1029
Q1030
Q1031
Q1032
Q1033
Q1034
Q1022
Q1023
Q1025
Q1017
Q1020
Q1012
Q1013
Q1014
U-12
U-13
U-22
U-23
U-47
U-50
N.C
MAIN Y
SUB Y
BAT
CLK
TV V
MUTE
C OUT
Y OUT
TV L
TV R
VAR L
VAR R
EXT L
EXT R
12V

U Board

IC	
IC1002	B-3
IC1011	F-2
TRANSISTOR	
Q1009	D-2
Q1010	E-2
Q1016	E-3
Q1017	B-5
Q1018	E-2
Q1019	E-3
Q1020	B-5
Q1021	B-2
Q1022	E-1
Q1023	C-2
Q1029	B-2
Q1030	D-2
Q1031	E-2
Q1032	C-4
Q1033	E-2
Q1034	G-2
DIODE	
D1005	A-2
D1009	B-4
D1010	A-4
D1011	B-3
D1012	D-3
D1013	E-3
D1015	B-4
D1017	B-2
D1018	G-2
D1019	G-2
D1020	E-2
D1021	E-3
D1022	E-3

UT [IN/OUT TERMINAL SP. TERMINAL]

– UT Board –


1-643-153-12
UT
SONY
CAD
VIDEO 1 IN
VIDEO 2 IN
VIDEO 3 IN
LOOP OUT
MONITOR OUT
AUDIO OUT (VAR)
AUDIO OUT (FIX)
REAR
FRONT
FRONT L OUT
REAR R OUT
REAR L OUT
MONI L IN
MONI V IN
MONI C IN
MONI Y IN
VIDEO 1 OUT
VIDEO 2 OUT
VIDEO 3 OUT
VAR-R-IN
UT-11
UT-38
UT-35
UT-22
UT-23
J1001
J1002
J1003
J1004
J1005
J1006
J1007
J1008
C1145
C1146
C1155
C1158
C1159
C1160
C1164
C1167
R1149
R1152
R1153
R1154
R1155
R1157
R1158
R1160
R1162
R1165
R1170
R1171
R1172
R1173
R1174
R1175
R1176
R1186
R1191
R1192
R1195

E1 [Y/C JUNGLE]

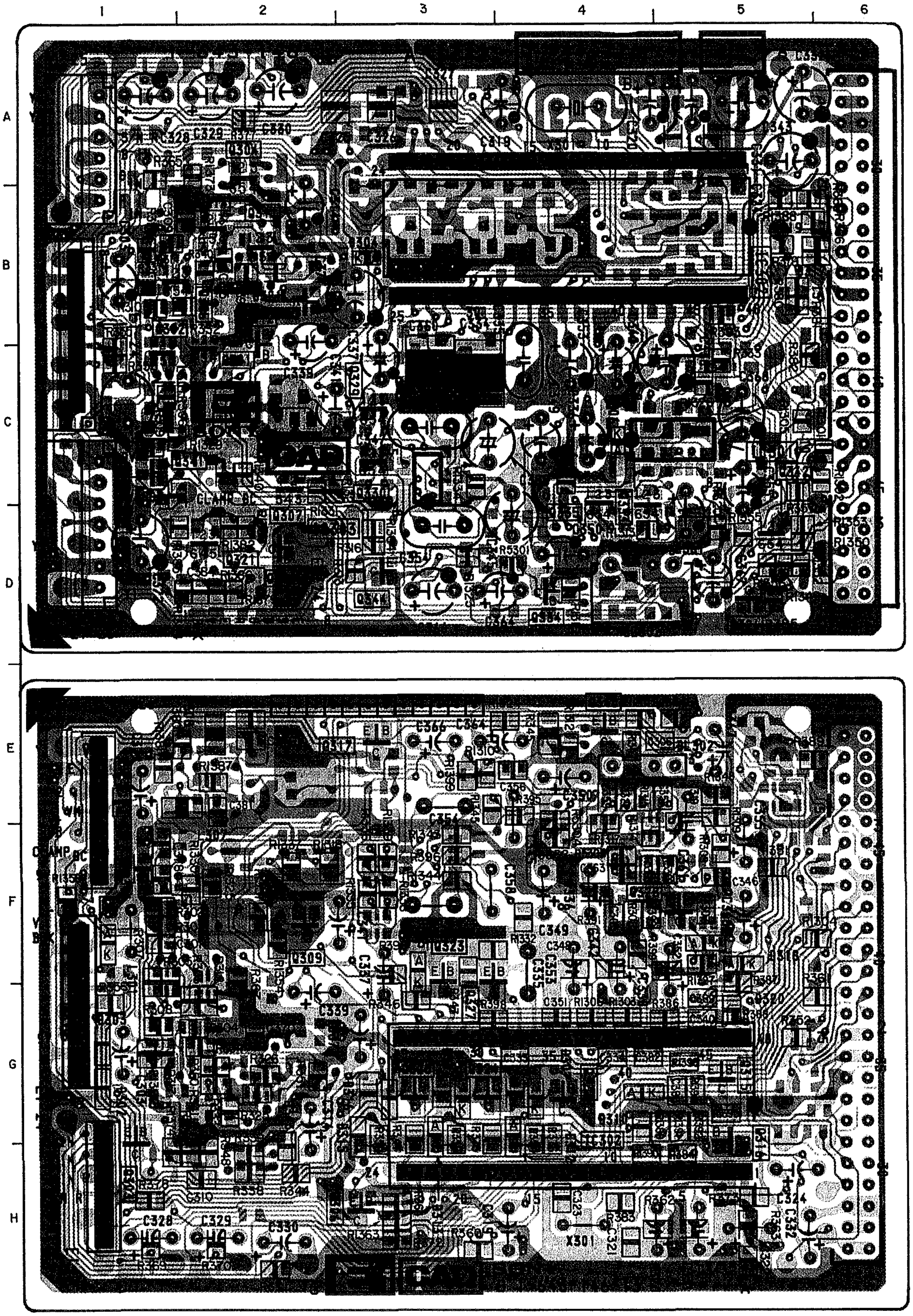
E1 Board

IC	
IC301	C-5
IC302	B-4, G-4
IC303	C-3

TRANSISTOR	
Q301	C-2
Q302	C-1
Q303	G-1
Q304	A-2
Q305	B-1
Q306	H-3
Q307	C-2
Q309	F-2
Q310	D-2
Q311	B-2
Q312	B-2
Q314	B-2
Q315	G-5
Q316	G-5
Q317	E-3
Q321	D-2
Q322	G-4
Q323	F-3
Q324	G-3
Q325	G-3
Q326	D-5
Q327	G-3
Q328	F-5
Q329	C-3
Q330	C-3
Q333	D-4
Q334	D-4
Q335	D-4
Q340	E-4
Q342	D-5
Q344	D-3

DIODE	
D301	F-1
D302	G-1
D303	G-1
D304	B-3
D305	F-3
D306	C-4
D307	G-4
D310	G-4
D312	G-4
D313	G-3
D314	G-3
D315	G-2
D316	G-3
D317	B-5
D318	F-5
D319	B-5
D320	G-5
D321	B-2

– E1 Board –

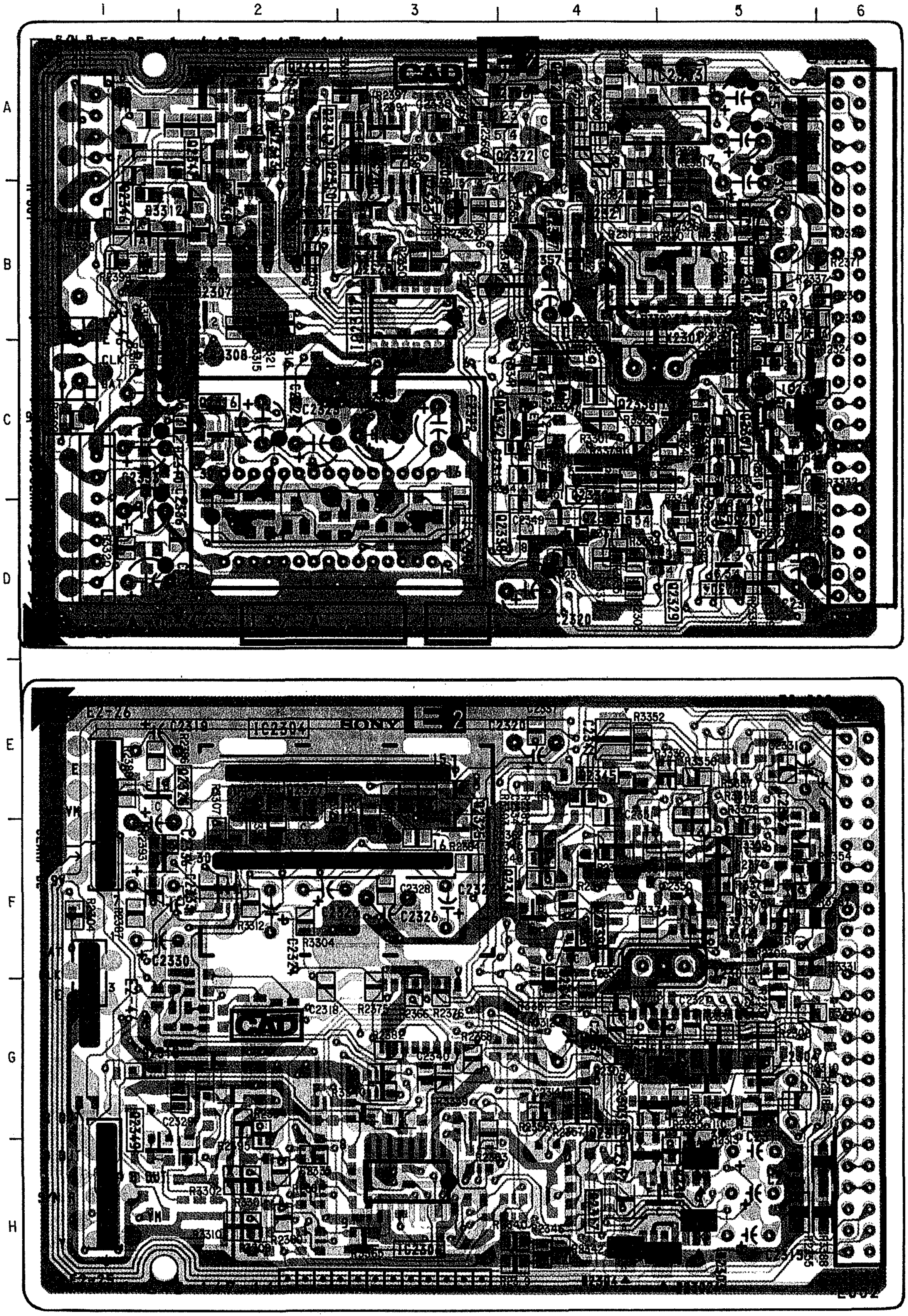


● ▨ : Pattern from the side which enables seeing.

● ▨ : Pattern of the rear side.

E2 [SHRPNESS CONT, CHARACTOR GENERATER]

– E2 Board –



E2 Board

IC	
IC2031	B-4
IC2303	A-5
IC2304	D-3, E-2
IC2306	H-3
IC2307	B-3

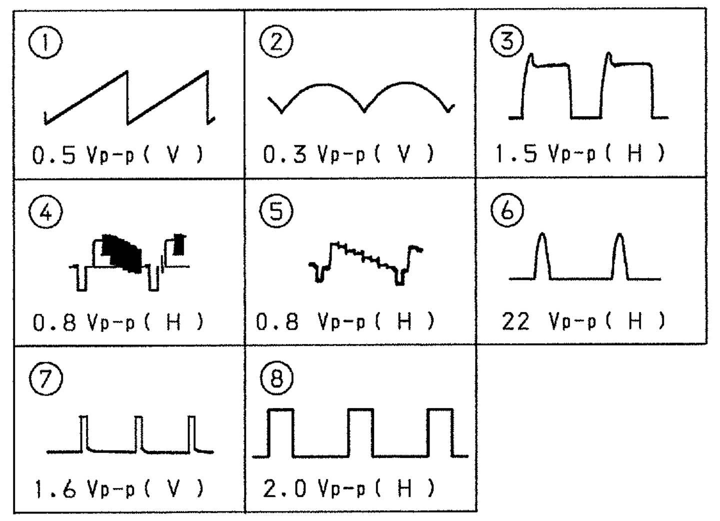
TRANSISTOR	
Q2301	C-5
Q2303	C-5
Q2304	D-5
Q2305	C-5
Q2306	A-3
Q2307	B-4
Q2308	A-3
Q2309	B-2
Q2310	A-2
Q2311	A-2
Q2312	A-2
Q2313	A-2
Q2314	A-2
Q2315	A-2
Q2317	H-4
Q2318	G-4
Q2319	G-5
Q2320	A-4
Q2321	A-4
Q2322	A-4
Q2324	B-3
Q2326	E-1
Q2327	E-2
Q2328	D-4
Q2329	D-4
Q2330	C-4
Q2336	C-5
Q2337	B-3
Q2339	F-4
Q2340	F-4
Q2341	F-4

DIODE	
D2306	C-5
D2307	B-2
D2308	B-2
D2309	B-5
D2312	C-4
D2313	C-4
D2314	B-5
D2317	A-4

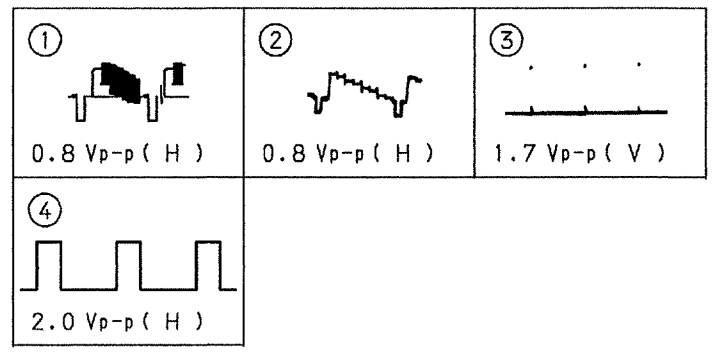
- ● ▒ : Pattern from the side which enables seeing.
- ● ▒ : Pattern of the rear side.

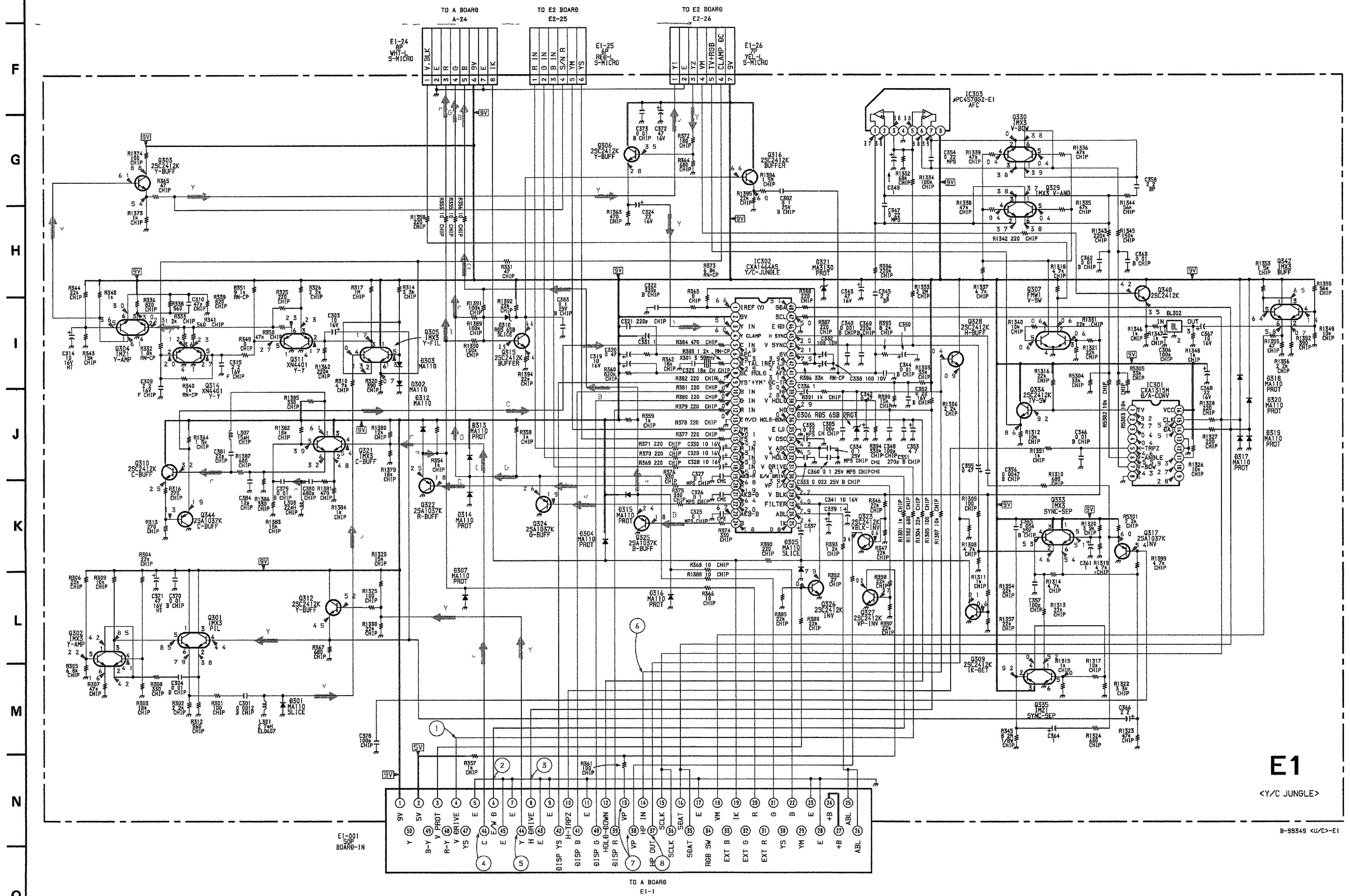
(4) SCHEMATIC DIAGRAMS OF E1, E2 BOARDS

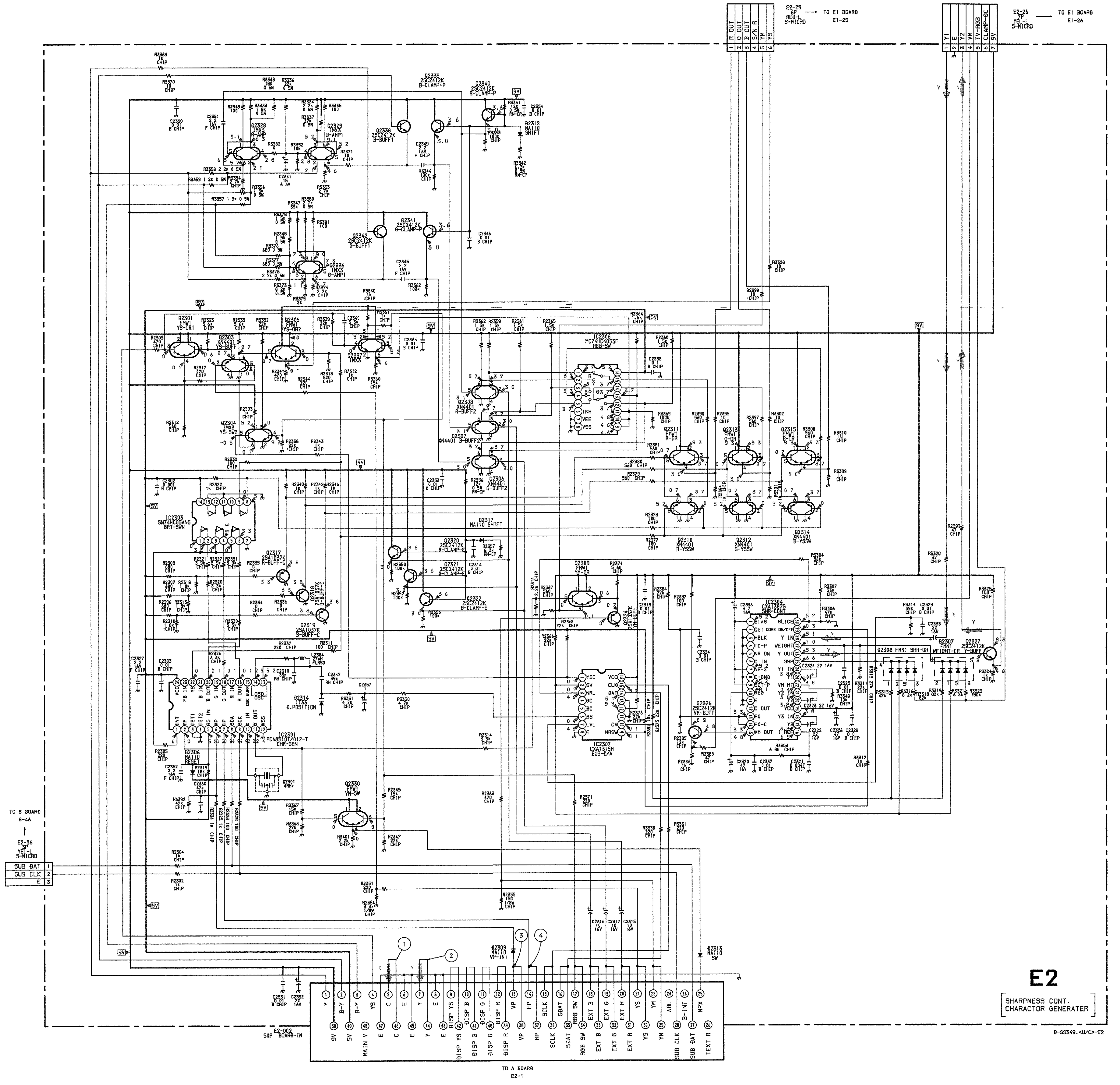
- **E1 BOARD WAVEFORMS**



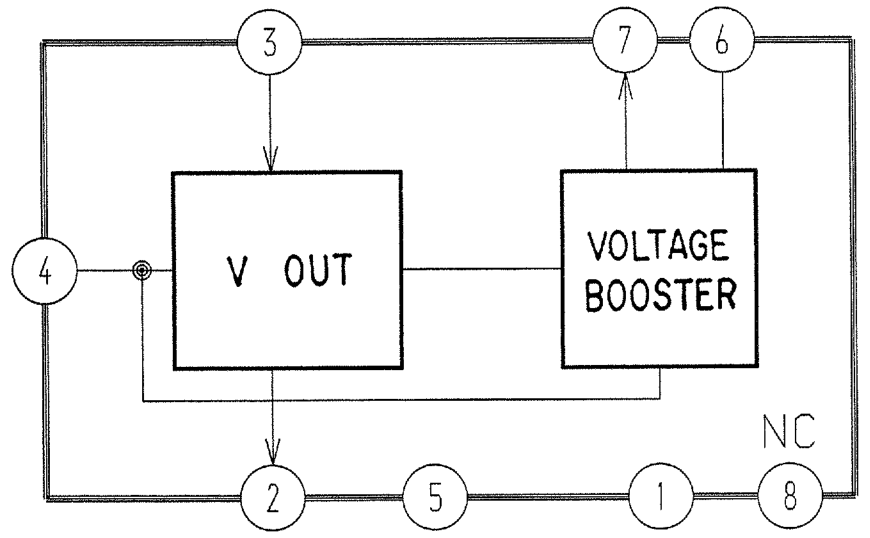
- **E2 BOARD WAVEFORMS**




TO A BOARD A-24
TO E2 BOARD E2-25
TO E2 BOARD E2-26
IC502 CXA1464AS Y/C-JUNGLE
IC501 CXA1315M D/A-CONV
IC503 µPC4570G2-E1 AFC
E1-001 BOARD-IN
TO A BOARD E1-1
E1
<Y/C JUNGLE>
B-65349 <U/C>-E1

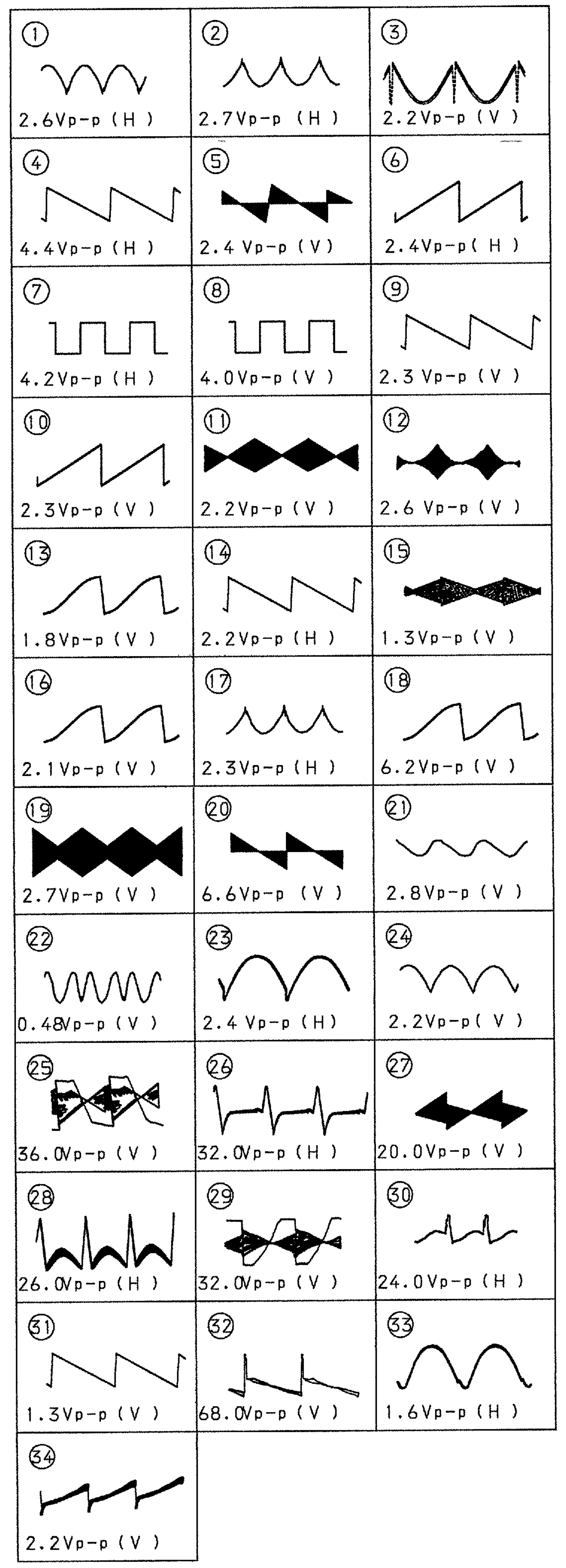

E2-25 TO E1 BOARD E1-25
E2-26 TO E1 BOARD E1-26
TO S BOARD S-46
SUB DAT
SUB CLK
IC2304 MC74HC4053F RGB-SW
IC2303 SN74HC05ANS BRT-DWN
IC2301 PCA8515T/012-T CHR-GEN
IC2302 CXA1315M BUS-D/A
IC2306 CXA1387S SHARP-CONT
E2-003 BOARD-IN
TO A BOARD E2-1
E2
SHARPNESS CONT. CHARACTOR GENERATER
B-65349 <U/C>-E2

D Board IC1706, 1707, 1708 μPC1498H

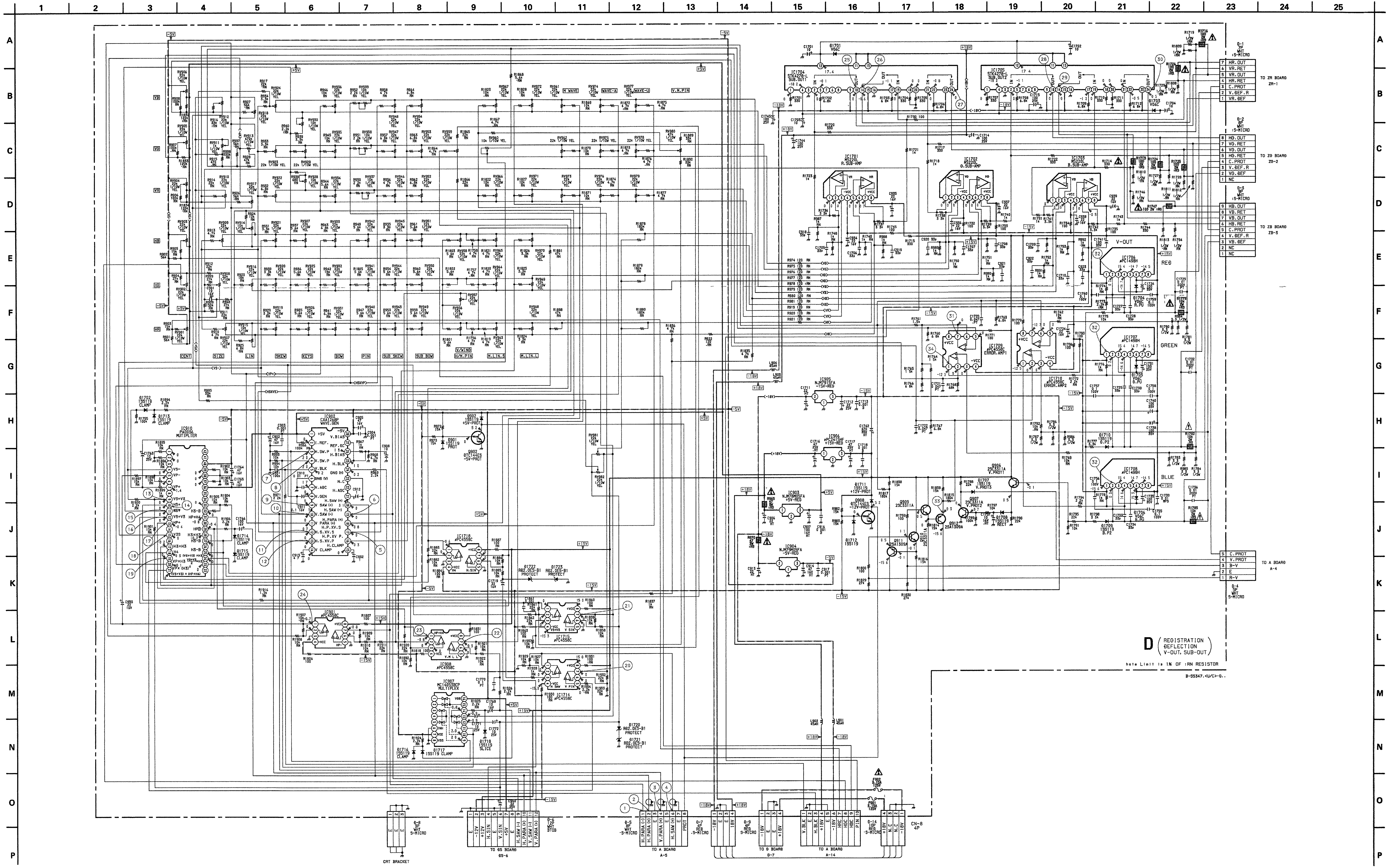


V OUT
VOLTAGE BOOSTER
NC
1
2
3
4
5
6
7
8

• D BOARD WAVEFORMS



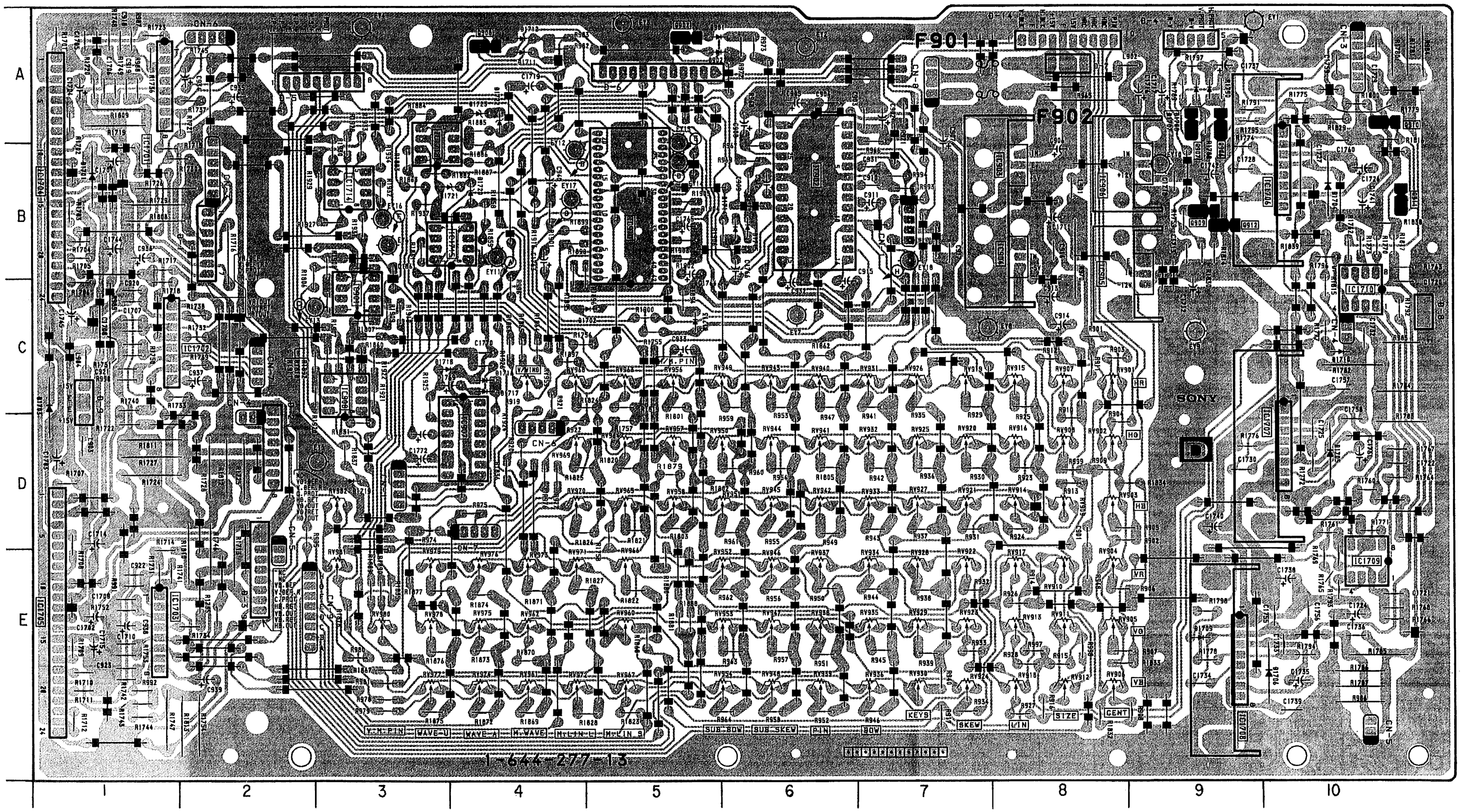
(5) SCHEMATIC DIAGRAM OF D BOARD



IC1704 STK4278-L SUB.OUT-1
IC1705 STK4278-L SUB.OUT-2
IC1701 NJM2082S R.SUB-AMP
IC1702 G.SUB-AMP
IC1703 B.SUB-AMP
IC1706 μPC1498H
IC1707 μPC1498H
IC1708 μPC1498H
V-OUT
RED
GREEN
BLUE
IC1709 μPC4558C ERROR.AMP1
IC1710 μPC4558C ERROR.AMP2
IC905 NJM7915FA -15V-REG
IC906 NJM78M15FA +15V-REG
IC903 NJM78M05FA +5V-REG
IC904 NJM79M05FA -5V-REG
IC910 PA2056 MUTIPLIER
IC902 CXA1148P WAVE.GEN
IC901 μPC4558C
IC908 μPC4558C
IC1716 μPC4558C
IC1715 μPC4558C
IC1714 μPC4558C
IC907 MC14053BCP MULTIPLEX
TO ZR BOARD ZR-1
TO ZG BOARD ZG-2
TO ZB BOARD ZB-3
TO A BOARD A-4
TO G5 BOARD G5-6
TO A BOARD A-5
TO G BOARD G-7
TO A BOARD A-14
CRT BRACKET
CN-8 4P
D (REGISTRATION DEFLECTION V-OUT, SUB-OUT)
Note Limit is 1% OF :RN RESISTOR

D REGISTRATION, DEFLECTION, V-OUT, SUB-OUT

– D Board –



D Board

IC	
IC901	C-3
IC902	B-6
IC903	B-8
IC904	B-8
IC905	B-9
IC906	B-9
IC907	D-4
IC908	C-3
IC910	B-5
IC1701	A-1
IC1702	C-2
IC1703	E-1
IC1704	B-1
IC1705	E-1
IC1706	B-10
IC1707	D-10
IC1708	E-9
IC1709	E-10
IC1710	C-10
IC1714	B-3
IC1715	B-4
IC1718	B-4

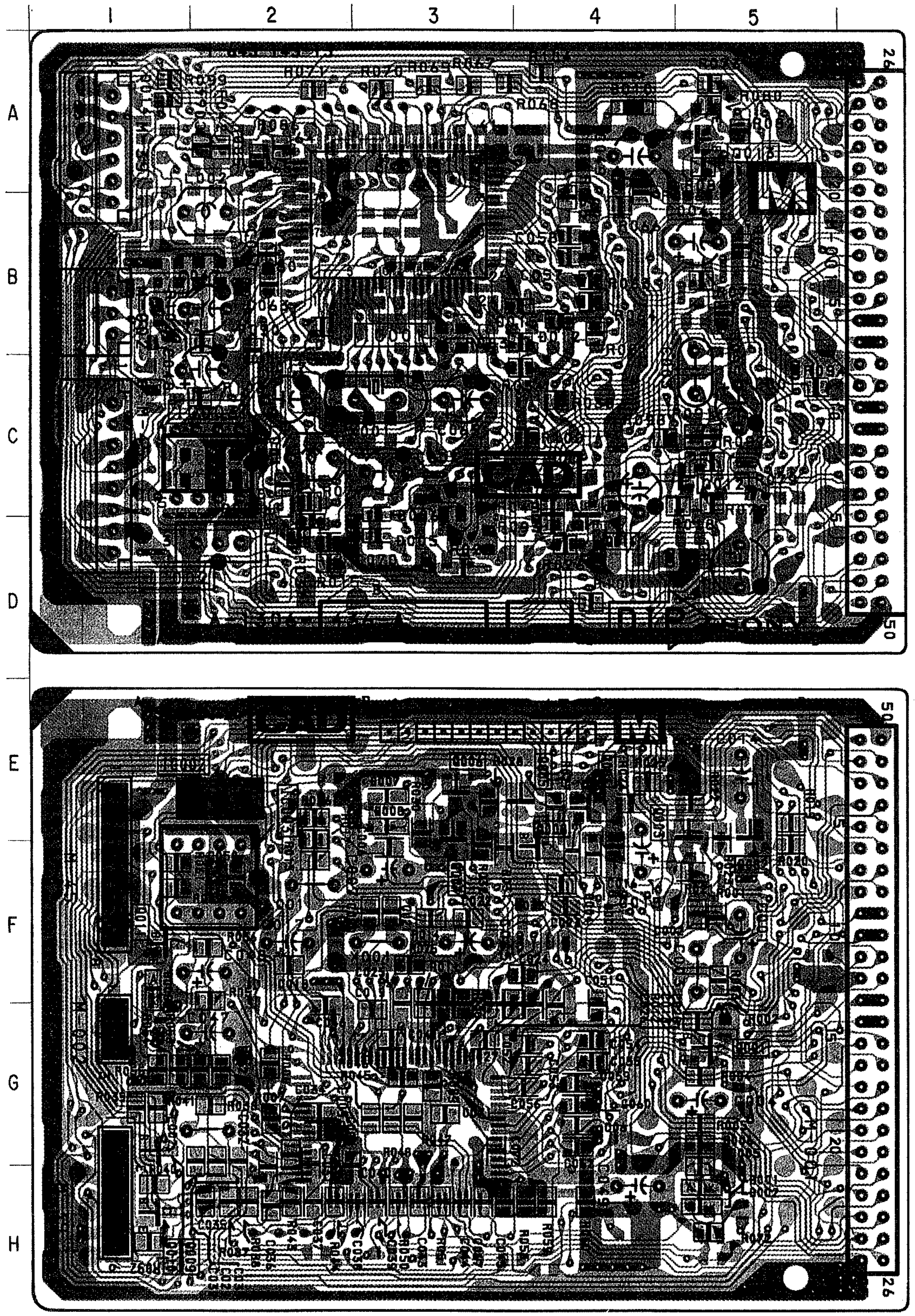
TRANSISTOR	
Q902	A-5
Q906	A-9
Q907	A-9
Q908	A-4
Q909	D-9
Q910	A-10
Q911	B-10
Q912	B-9

DIODE	
D901	A-6
D902	A-6
D1701	B-1
D1702	C-5
D1703	C-1
D1704	B-10
D1075	D-10
D1706	E-10
D1707	A-9
D1708	A-9
D1709	E-9
D1710	C-10
D1711	A-4
D1712	A-4
D1713	C-5
D1714	B-6
D1715	B-6
D1716	C-4
D1717	C-4
D1718	C-4
D1720	B-4
D1721	B-4
D1722	A-4
D1723	A-4

VARIABLE RESISTOR	
RV901	C-9
RV902	D-9
RV903	D-9
RV904	E-9
RV905	D-9
RV906	E-9
RV907	C-8
RV908	D-8
RV909	D-8
RV910	E-8
RV911	E-8
RV912	E-8
RV913	E-8
RV914	D-8
RV915	C-8
RV916	D-8
RV917	E-8
RV918	E-8
RV919	C-7
RV920	D-7
RV921	D-7
RV922	E-7
RV923	E-7
RV924	E-7
RV925	D-7
RV926	C-7
RV927	D-7
RV928	E-7
RV929	E-7
RV930	E-7
RV931	C-7
RV932	D-7
RV933	D-7
RV934	E-7
RV935	E-7
RV936	E-7
RV937	E-6
RV938	E-6
RV939	E-6
RV940	C-6
RV941	D-6
RV942	D-6
RV943	C-6
RV944	D-6
RV945	D-6
RV946	E-6
RV947	E-6
RV948	E-6
RV949	C-6
RV950	D-6
RV951	D-6
RV952	E-6
RV953	E-6
RV954	E-6
RV956	C-5
RV957	D-5
RV958	D-5
RV959	C-4
RV960	E-5
RV961	E-4
RV962	E-4
RV963	C-5
RV964	D-5
RV965	D-5
RV966	E-5
RV967	E-5
RV968	C-5
RV969	D-5
RV970	D-5
RV971	E-5
RV972	E-5
RV973	E-4
RV974	E-4
RV975	E-4
RV976	E-4
RV977	E-3
RV978	E-3
RV979	E-3
RV980	E-3
RV981	E-3
RV982	D-3

M [MAIN CONTROL, μ -CON]

– M Board –



- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

N Board

IC	
IC801	B-3
IC802	C-2
IC803	A-1
IC804	D-2
IC805	D-4

TRANSISTOR	
Q801	B-5
Q802	B-3
Q803	D-6
Q804	D-5
Q805	D-5
Q806	D-5
Q807	C-1
Q808	C-1
Q809	D-4
Q811	C-7
Q812	B-2
Q820	B-3
Q851	C-5
Q852	C-4
Q853	C-4

DIODE	
D801	A-6
D802	B-5
D803	B-2
D804	C-2
D805	B-2
D806	C-2
D807	D-4
D808	D-2
D809	D-1
D810	D-3
D811	B-1
D812	C-2
D813	C-2
D814	A-3
D815	D-3
D817	D-7
D818	B-3
D820	A-3
D850	C-4
D851	E-5
D852	C-4
D853	E-5
D891	B-2
D892	C-2

M Board

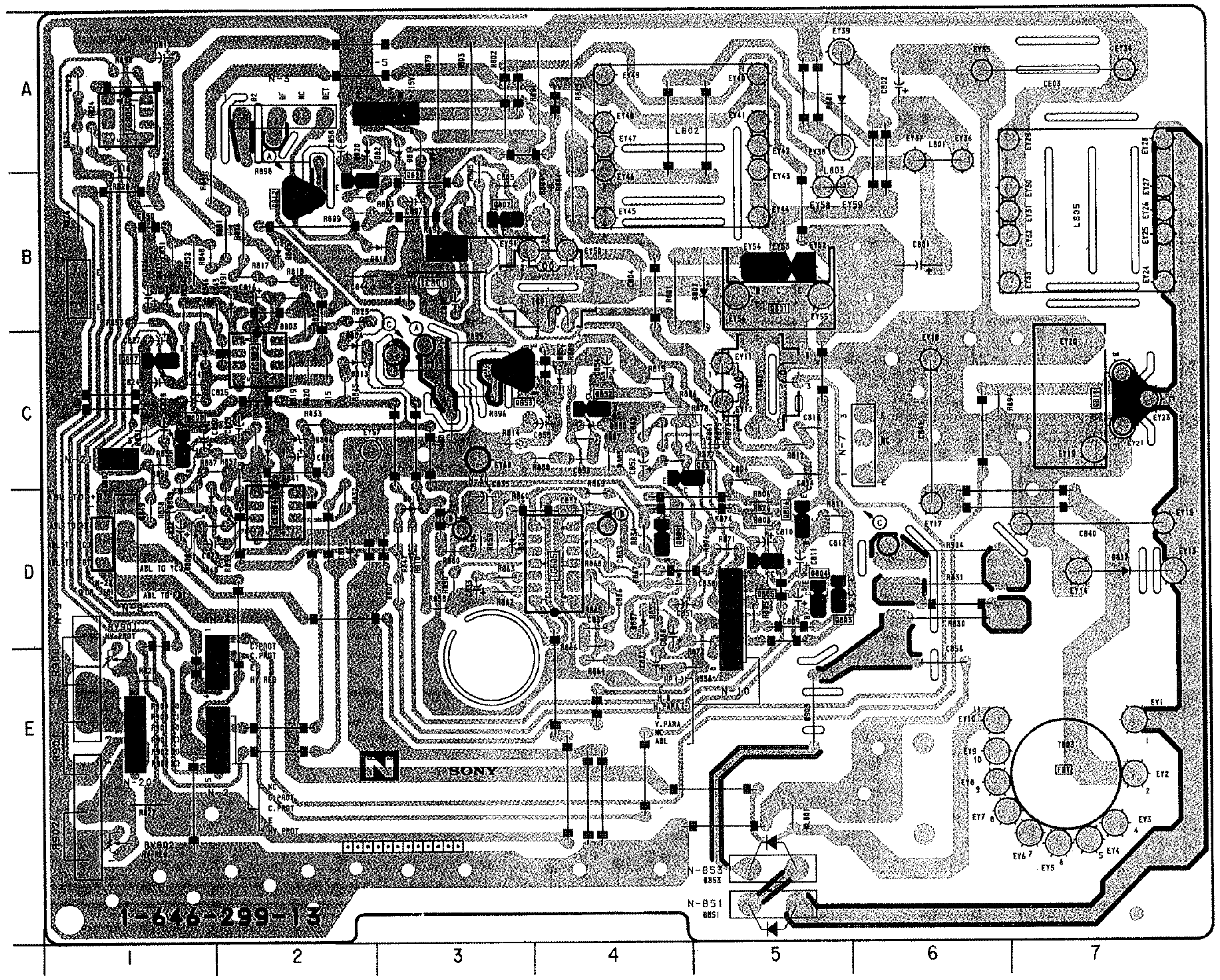
IC	
IC001	C-1
IC002	D-2, E-2

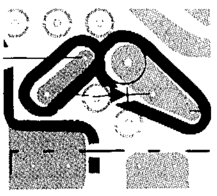
TRANSISTOR	
Q001	G-5
Q009	G-1
Q010	H-1
Q011	F-1
Q012	C-5
Q013	A-5
Q014	C-4

DIODE	
D001	H-5
D002	H-5
D009	F-1
D010	A-4
D011	D-2
D012	B-4
D014	A-1
D015	B-4

N [H. V]

– N Board –

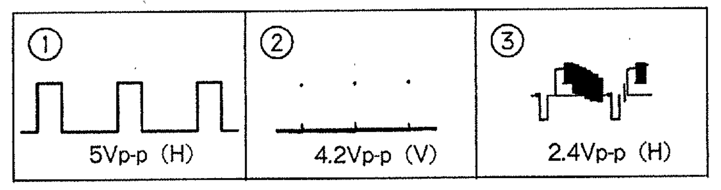




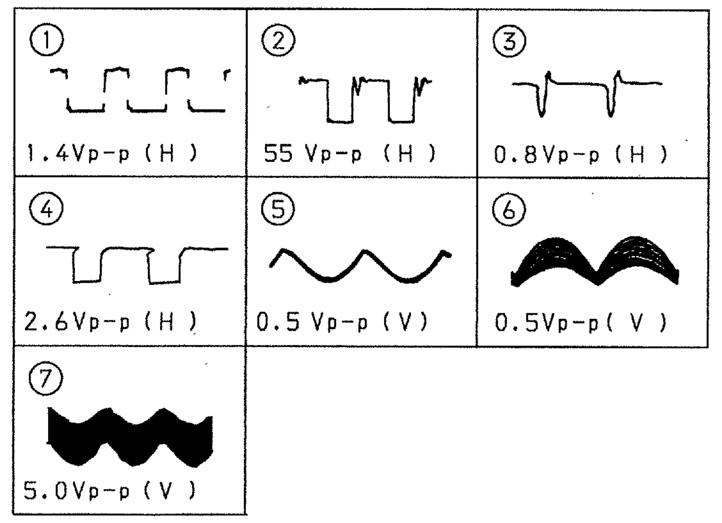
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

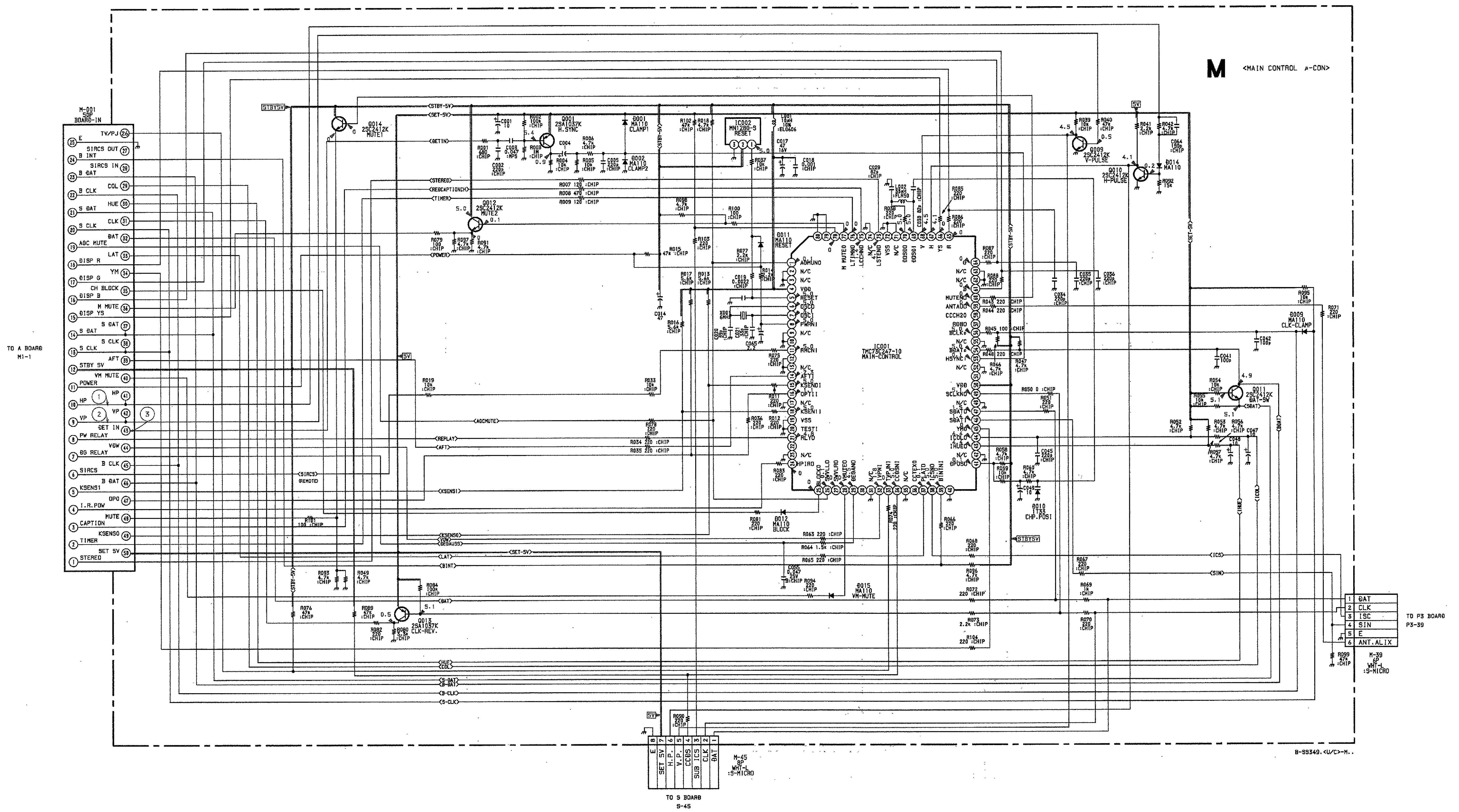
(6) SCHEMATIC DIAGRAMS OF M, N BOARDS

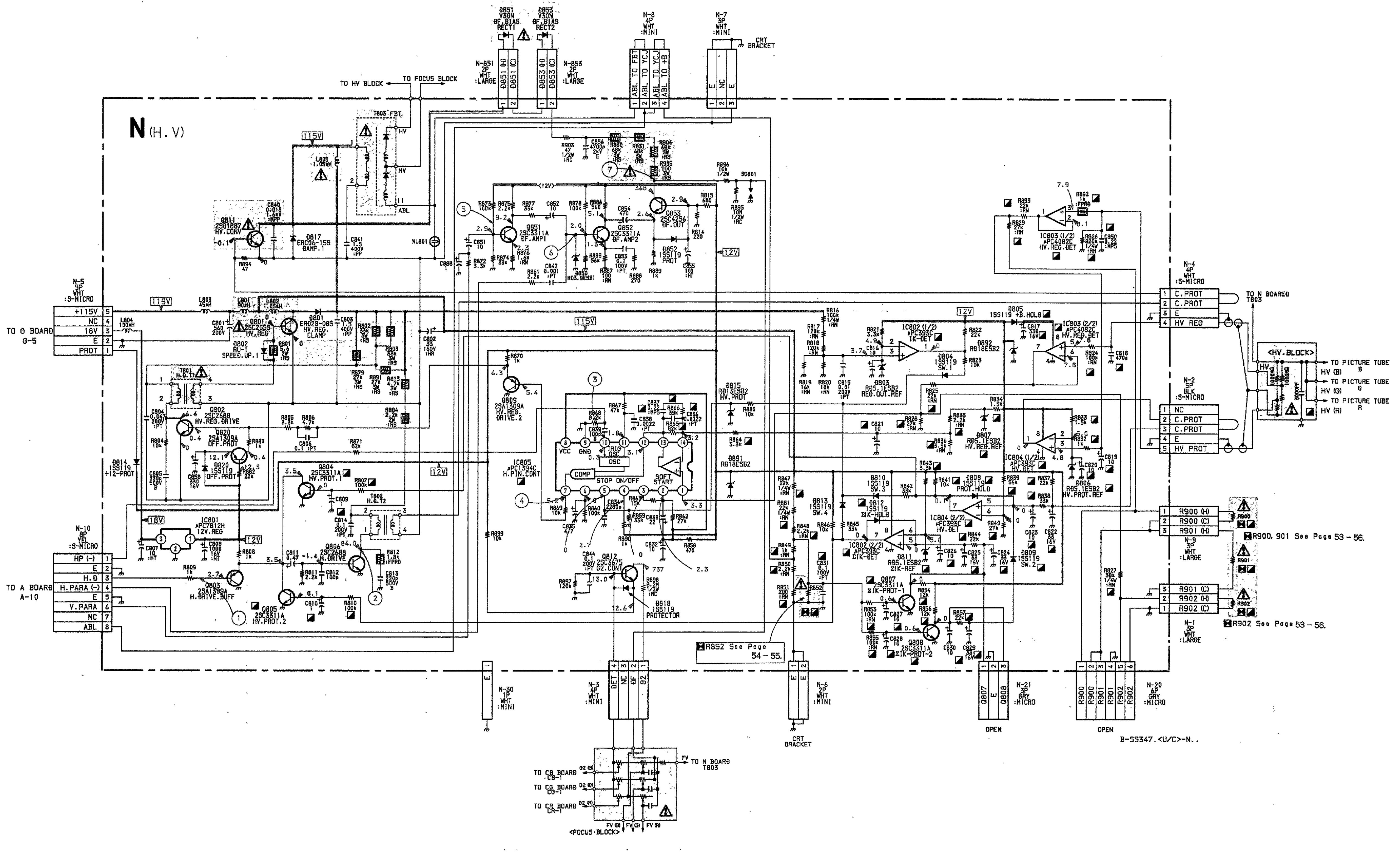
• M BOARD WAVEFORMS



• N BOARD WAVEFORMS

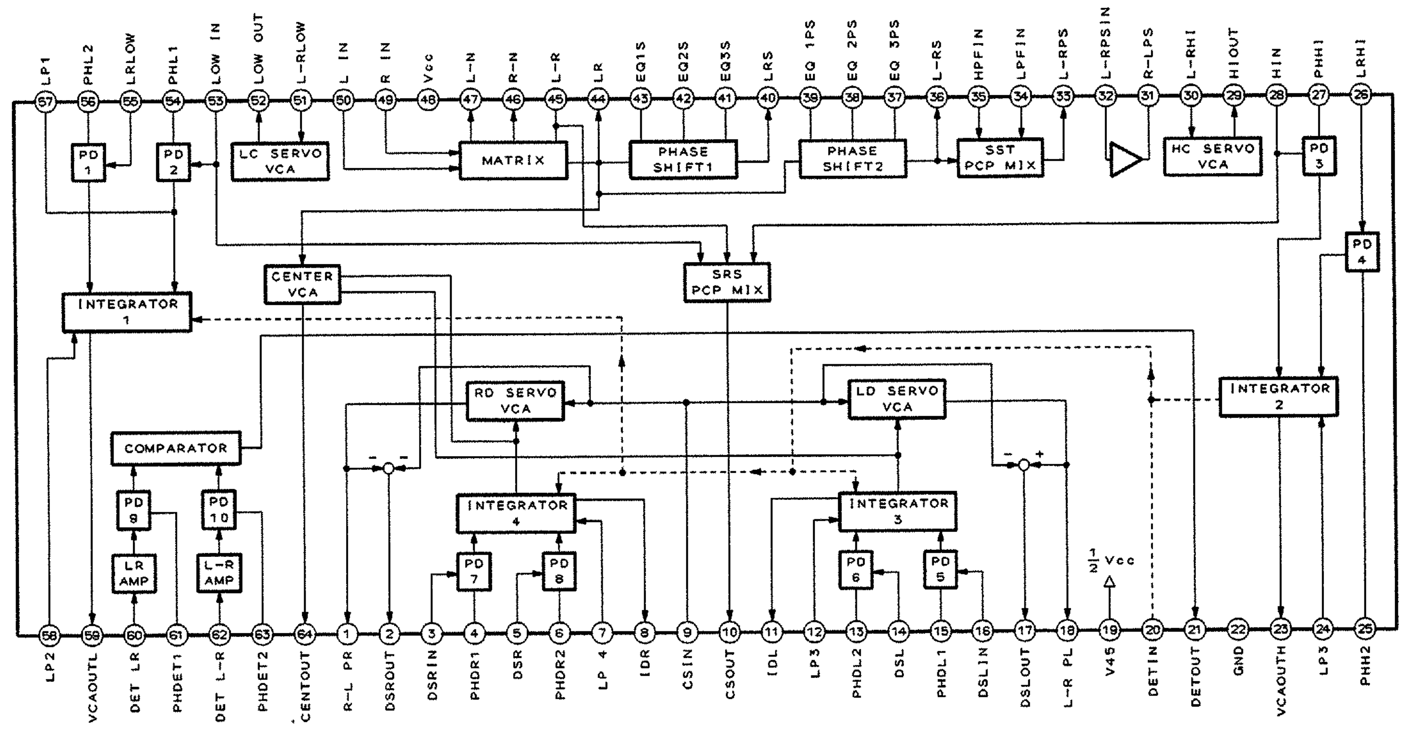



M
<MAIN CONTROL μ-CON>
TO A BOARD
M1-1
M-001
50P
BOARD-IN
TV/PJ
E
SIRCS OUT
B INT
SIRCS IN
B DAT
COL
B CLK
HUE
S DAT
CLK
S CLK
DAT
AGC MUTE
LAT
DISP R
YM
DISP G
CH BLOCK
DISP B
M MUTE
DISP YS
S DAT
S DAT
S CLK
S CLK
AFT
STBY 5V
VM MUTE
POWER
HP
HP
VP
VP
DET IN
PW RELAY
VDW
BG RELAY
B CLK
SIRCS
B DAT
KSENS1
DPO
I.R.POW
MUTE
CAPTION
KSENS0
TIMER
SET 5V
STEREO
IC001
MAIN-CONTROL
R041
2.2k
:CHIP
R042
4.7k
:CHIP
C064
150p
:CHIP
D014
MA110
TO S BOARD
S-45
TO P3 BOARD
P3-39
B-SS349.<U/C>-M..


N (H. V)
TO G BOARD
G-5
N-5
5P
WHT
:S-MICRO
+115V
NC
18V
E
PROT
L804
100μH
D814
1SS119
+12-PROT
C804
0.047
200V
:PT
R804
10k
C805
330p
500V
B
C807
10
:HT
TO A BOARD
A-10
N-10
8P
YEL
:S-MICRO
HP (-)
E
H.D
H.PARA (-)
E
V.PARA
NC
ABL
TO HV BLOCK
TO FOCUS BLOCK
CRT
BRACKET
N-4
4P
WHT
:S-MICRO
C.PROT
C.PROT
E
HV REG
TO N BOARED
T803
<HV.BLOCK>
HV
TO PICTURE TUBE
B
HV (B)
TO PICTURE TUBE
G
HV (G)
TO PICTURE TUBE
R
HV (R)
N-2
5P
BLK
:S-MICRO
NC
C.PROT
C.PROT
E
HV PROT
R900 (H)
R900 (C)
R901 (H)
N-9
3P
WHT
:LARGE
R900, 901 See Page 53 – 56.
R901 (C)
R902 (H)
R902 (C)
N-1
3P
WHT
:LARGE
R902 See Page 53 – 56.
R852 See Page 54 – 55.
N-20
6P
GRY
:MICRO
OPEN
TO CR BOARD
TO CG BOARD
TO CB BOARD
TO N BOARD
T803
<FOCUS BLOCK>
B-SS347.<U/C>-N..

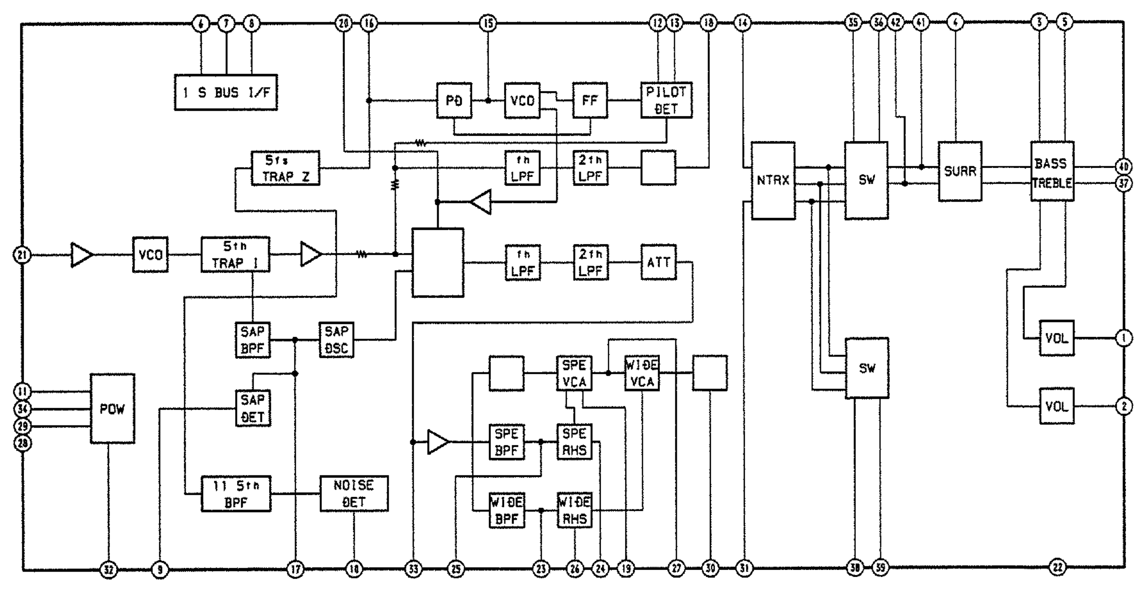
(7) SCHEMATIC DIAGRAMS OF X2, Y2 BOARDS

X2 Board IC2502 CXA1373Q



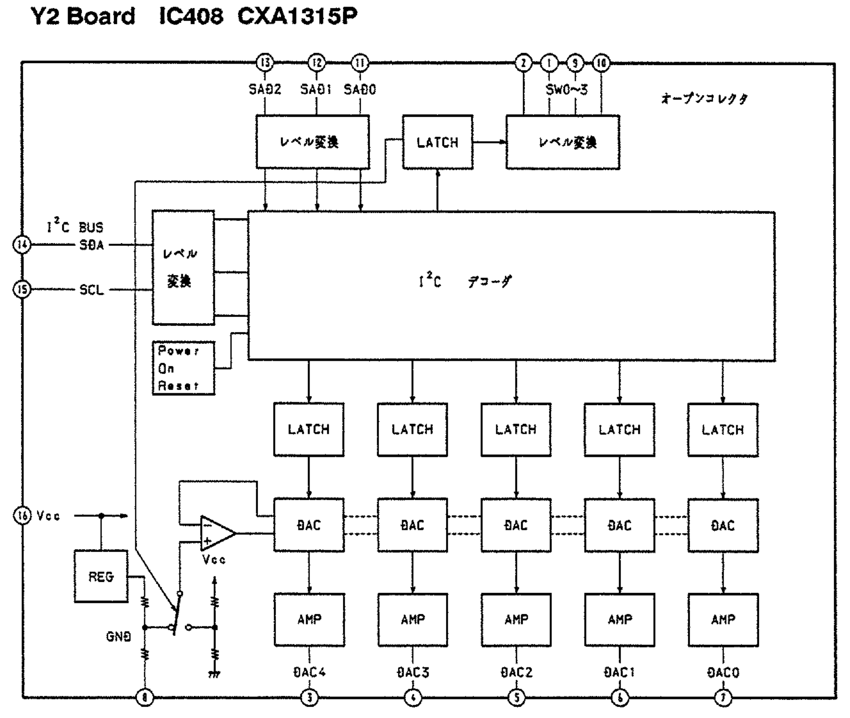
PD 1
PD 2
LC SERVO VCA
MATRIX
PHASE SHIFT1
PHASE SHIFT2
SST PCP MIX
HC SERVO VCA
PD 3
PD 4
INTEGRATOR 1
CENTER VCA
SRS PCP MIX
INTEGRATOR 2
RD SERVO VCA
LD SERVO VCA
COMPARATOR
INTEGRATOR 4
INTEGRATOR 3
PD 9
PD 10
LR AMP
L-R AMP
PD 7
PD 8
PD 6
PD 5
Vcc

Y2 Board IC406 CXA1264AS

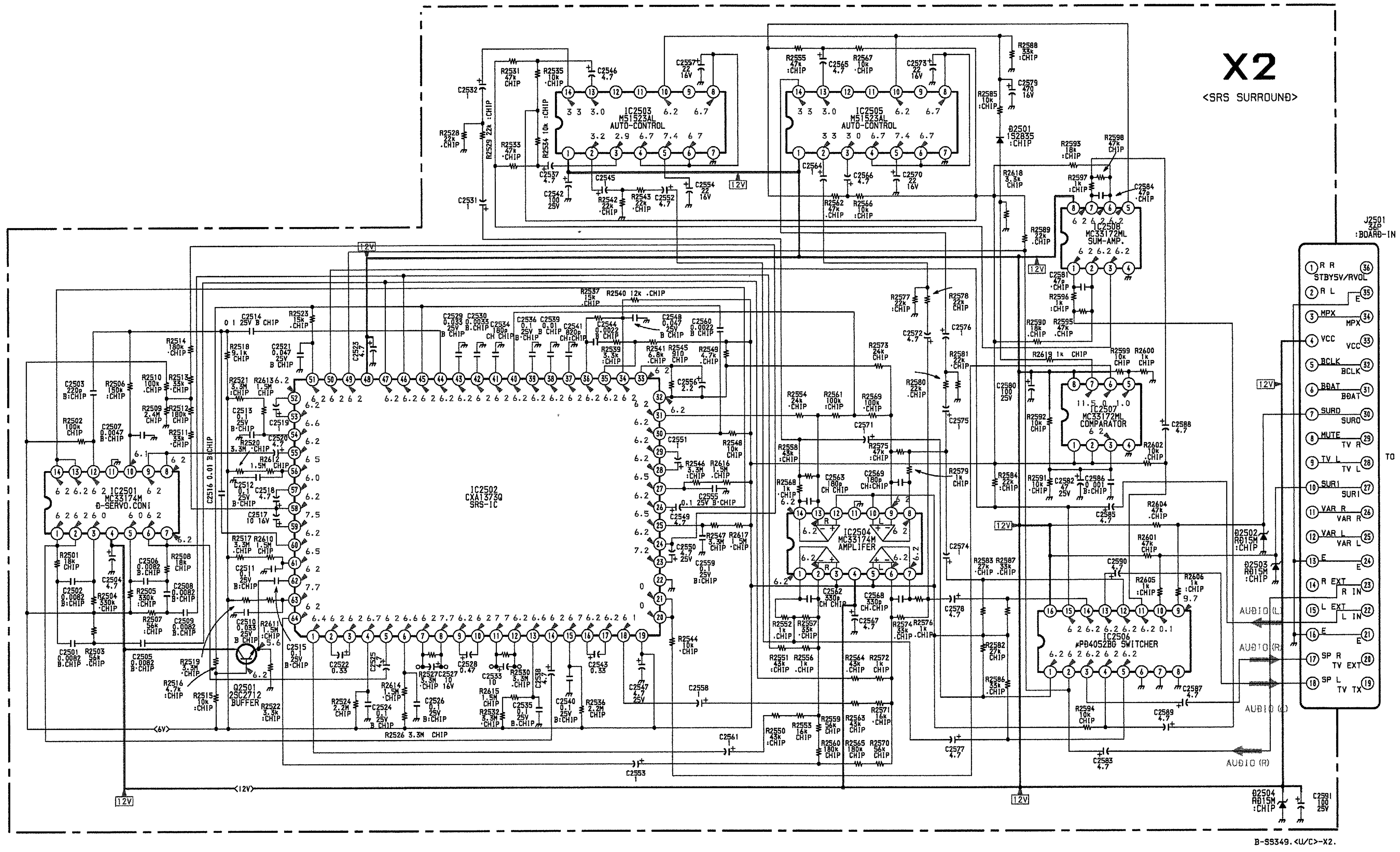


I²C BUS I/F
PD
VCO
FF
PILOT DET
5fH TRAP 2
fH LPF
2fH LPF
NTRX
SW
SURR
BASS TREBLE
VCO
5fH TRAP 1
fH LPF
2fH LPF
ATT
SAP BPF
SAP OSC
SAP DET
VOL
VOL
SW
PCW
SPE VCA
WIDE VCA
SPE BPF
SPE RMS
11.5fH BPF
NOISE DET
WIDE BPF
WIDE RMS

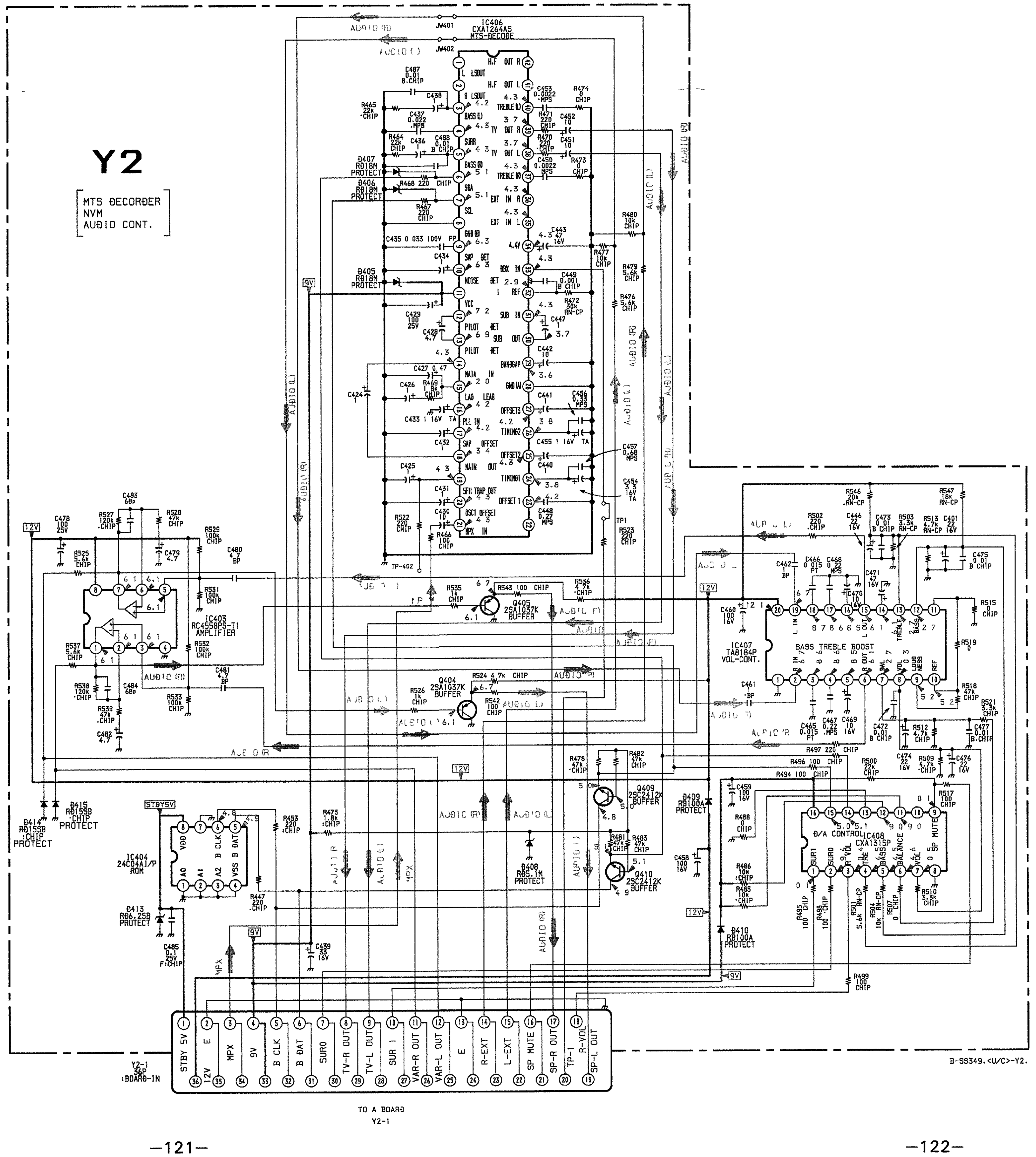
Y2 Board IC408 CXA1315P



SAD2
SAD1
SAD0
SWD-3
オープンコレクタ
レベル変換
LATCH
レベル変換
I²C BUS
SDA
SCL
レベル変換
I²C デコーダ
Power On Reset
LATCH
LATCH
LATCH
LATCH
LATCH
Vcc
REG
DAC
DAC
DAC
DAC
DAC
AMP
AMP
AMP
AMP
AMP
GND
DAC4
DAC3
DAC2
DAC1
DAC0



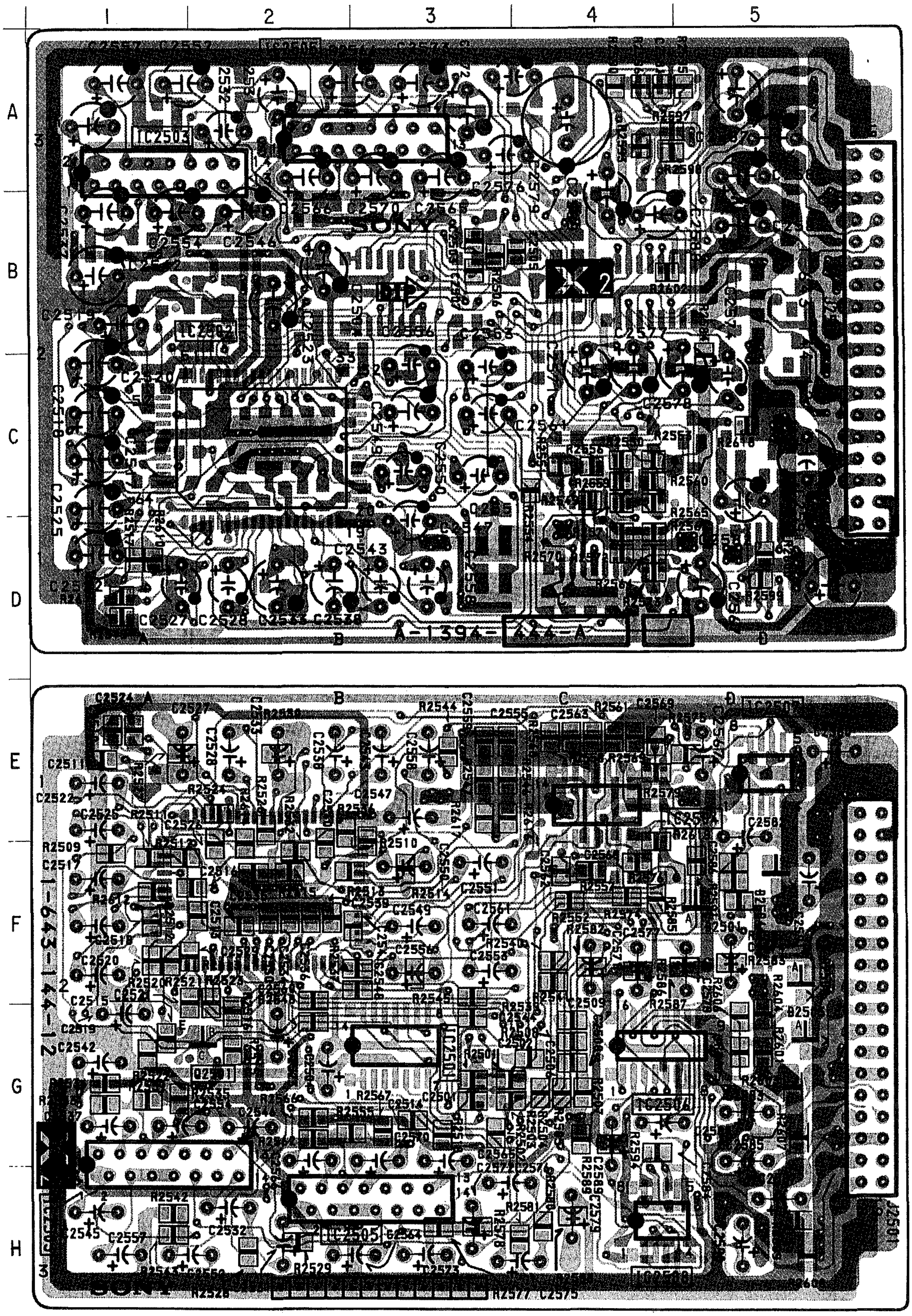
X2
<SRS SURROUND>
IC2502 CXA1373Q SRS-IC
IC2501 M5217AML D-SERVO.CONT
IC2503 M5F6934L AUTO-CONTROL
IC2505 M5F6934L AUTO-CONTROL
IC2506 MC3317 2ML SUM-AMP.
IC2507 MC3317 2ML COMPARATOR
IC2504 M5217AML AMPLIFIER
IC2508 µPD4052BG SWITCHER
Q2501 2SC2712 BUFFER
J2501 36P :BOARD-IN
TO A BOARD X2-1
STBY5V/RVOL
MPX
VCC
BCLK
BBAT
SURO
MUTE
TV R
TV L
SUR1
VAR R
VAR L
E
R IN
L EXT
L IN
SP R
TV EXT
SP L
TV TX
AUDIO (L)
AUDIO (R)
12V
B-55349.<U/C>-X2.



Y2
MTS DECORDER
NVM
AUDIO CONT.
IC406 CXA1264AS MTS-DECORDER
IC403 RC4558P-T1 AMPLIFIER
IC404 24C04A1/P ROM
IC407 TA8184P VOL-CONT.
IC408 CXA1315P D/A CONTROL
BASS TREBLE BOOST
Q404 2SA1037K BUFFER
Q405 2SA1037K BUFFER
Q409 2SC2412K BUFFER
Q410 2SC2412K BUFFER
D405 RD10M PROTECT
D406 RD10M PROTECT
D407 RD10M PROTECT
D408 RD5.1M PROTECT
D409 RB100A PROTECT
D410 RB100A PROTECT
D413 RD6.2SB PROTECT
D414 RB155B CHIP PROTECT
D415 RB155B CHIP PROTECT
AUDIO (R)
AUDIO (L)
STBY 5V
E
MPX
5V
B CLK
B DAT
SURO
TV-R OUT
TV-L OUT
SUR 1
VAR-R OUT
VAR-L OUT
E
R-EXT
L-EXT
SP MUTE
SP-R OUT
TP-1
SP-L OUT
12V
R-VOL
Y2-1 36P :BOARD-IN
TO A BOARD Y2-1
B-55349.<U/C>-Y2.

X2 [SRS SURROUND]

– X2 Board –


1
2
3
4
5
A
B
C
D
E
F
G
H
SONY
X2
A-1394-444-A
1-643-144-12
IC2501
IC2502
IC2503
IC2504
IC2505
IC2506
IC2508
Q2501
J2501

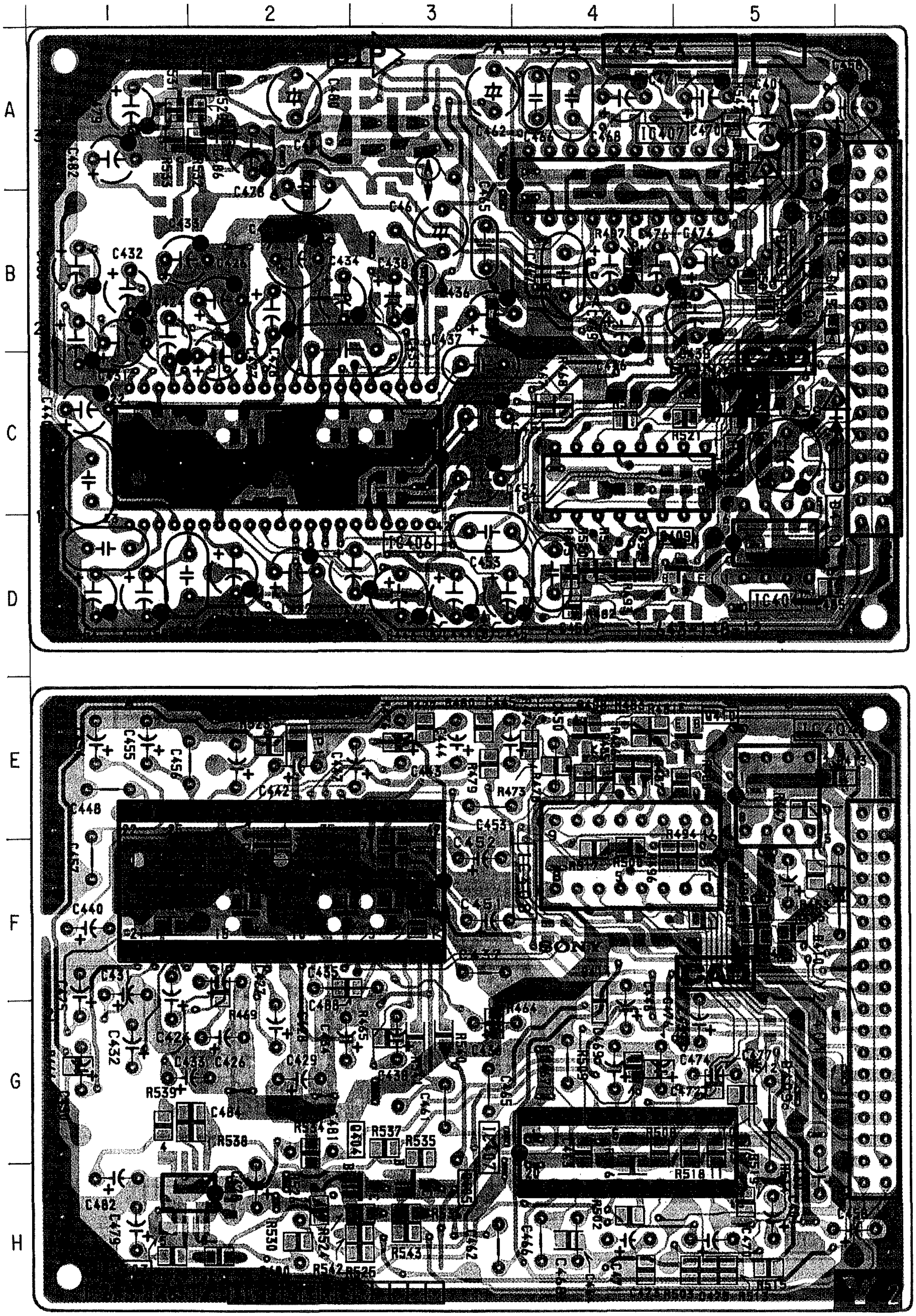
X2 Board

IC		
IC2501		G-3
IC2502	C-2	
IC2503	A-1	H-1
IC2504		E-4
IC2505	A-2	H-2
IC2506		G-4
IC2507		E-5
IC2508		H-4
TRANSISTOR		
Q2501	G-2	
DIODE		
D2501		F-5
D2502		F-5
D2503		G-5
D2504		F-5

- ▒ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

Y2 [MTS DECORDER, NVM, AUDIO CONT.]

– Y2 Board –


1
2
3
4
5
A
B
C
D
E
F
G
H
C432
C434
C438
C436
C437
C461
C462
C466
C468
C470
IC407
R417
C474
R521
IC406
C435
IC409
C455
C456
C442
C443
C444
R479
R473
C448
C453
C452
R494
C440
C451
C431
C424
C426
C429
R469
C433
C484
R539
R538
R537
R535
R534
Q404
R543
R542
R525
R530
C482
C479
R518
R508
C446
SONY

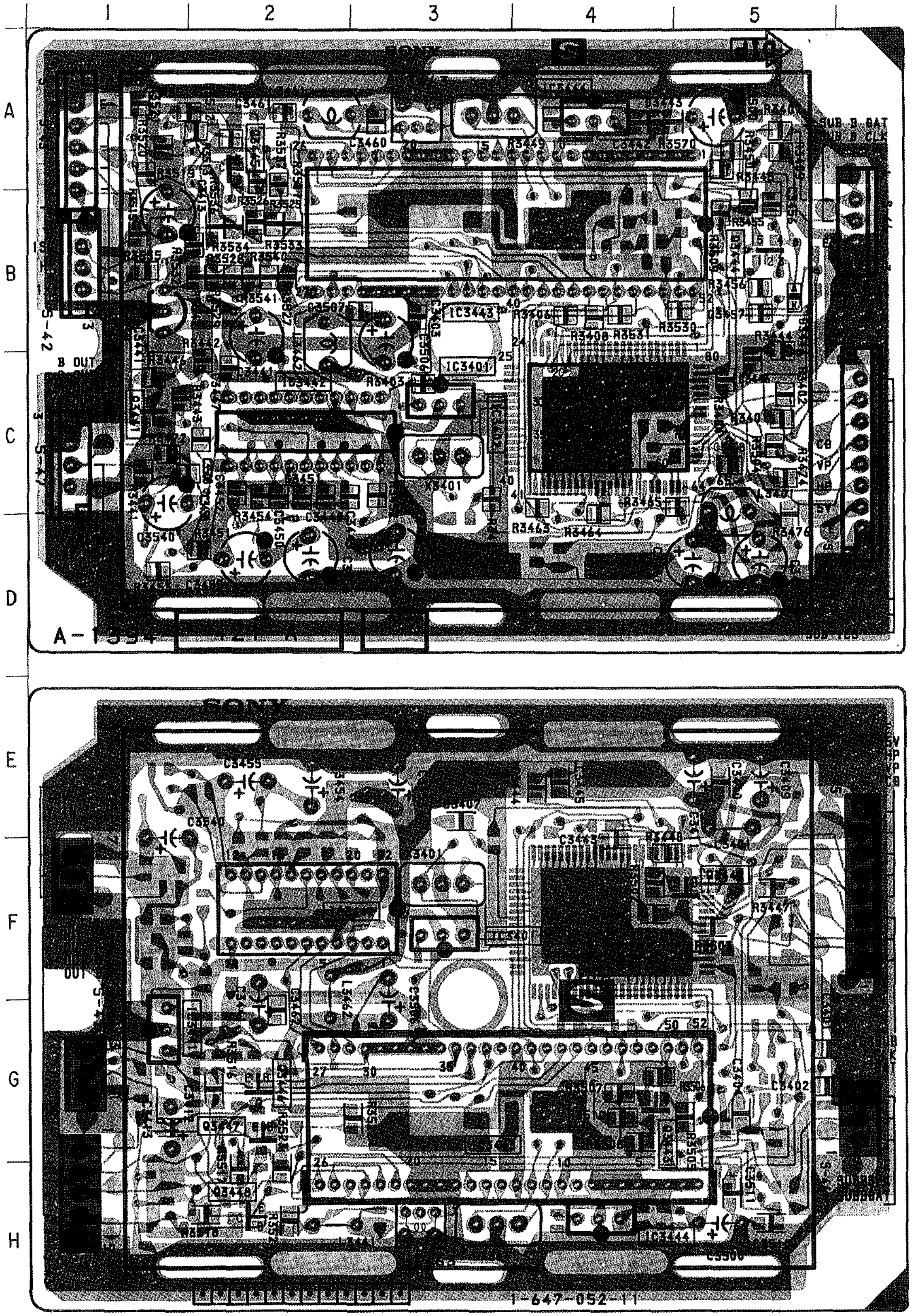
Y2 Board

IC	
IC403	H-1
IC404	D-5, E-5
IC406	C-2, F-2
IC407	A-4, G-4
IC408	C-4, F-4
TRANSISTOR	
Q404	H-3
Q405	H-3
Q409	D-5
Q410	E-5
DIODE	
D405	F-2
D406	F-2
D407	F-3
D408	E-4
D409	A-5
D410	C-5, F-5
D413	E-6
D414	F-4
D415	B-5

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

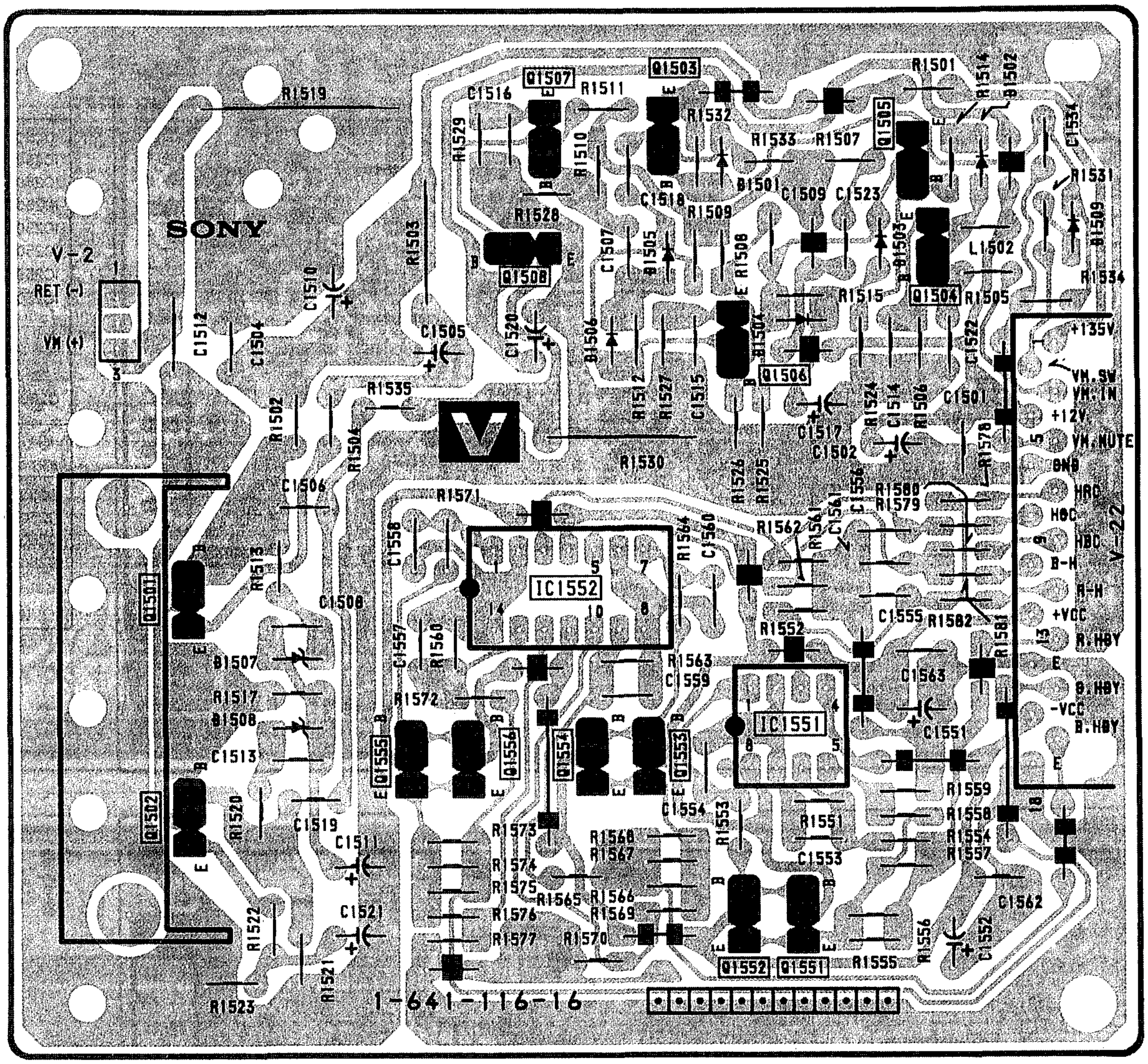
S [SUB-CONTROL, μ -CON, CLOSED CAPTION DECORDER]

– S Board –


1
2
3
4
5
A
B
C
D
E
F
G
H
SONY
IC3401
IC3402
IC3403
IC3443
IC3444
X3401
C3460
C3461
R3449
R3454
C3540
A-1394
SONY
C3455
C3401
IC3401
1-647-052-11

V [VM]

– V Board –


SONY
V-2
RET (-)
VM (+)
R1519
C1516
Q1507
R1511
Q1503
R1501
R1514
D1502
R1529
R1510
R1532
R1533
R1507
Q1505
C1534
R1531
D1501
C1518
C1509
C1523
D1509
R1528
R1509
R1508
D1503
L1502
R1503
C1510
Q1508
C1507
R1505
R1515
Q1504
R1534
C1512
C1504
C1505
C1520
D1506
D1504
C1522
+135V
VM.SW
VM.IN
+12V
VM.MUTE
GND
HRC
HGC
HBC
B-H
R-H
+VCC
R.HBY
G.HBY
-VCC
B.HBY
V-22
R1535
R1502
R1504
Q1506
R1512
R1527
C1515
R1524
C1514
R1506
C1501
C1517
C1502
R1578
R1530
R1526
R1525
C1556
R1580
R1579
C1506
R1571
C1558
IC1552
R1564
C1560
R1562
R1561
C1561
Q1501
R1513
C1508
C1557
R1560
C1555
R1582
R1581
R1552
D1507
R1517
D1508
C1513
R1563
C1559
C1563
IC1551
C1551
R1572
Q1555
Q1556
Q1554
Q1553
Q1502
R1520
C1519
C1554
R1553
R1559
R1558
R1554
R1557
R1551
C1511
R1573
R1574
R1575
R1576
R1577
R1568
R1567
R1565
R1566
R1569
R1570
C1553
C1562
C1521
R1522
R1521
R1523
Q1552
Q1551
R1555
R1556
C1552
1-641-116-16

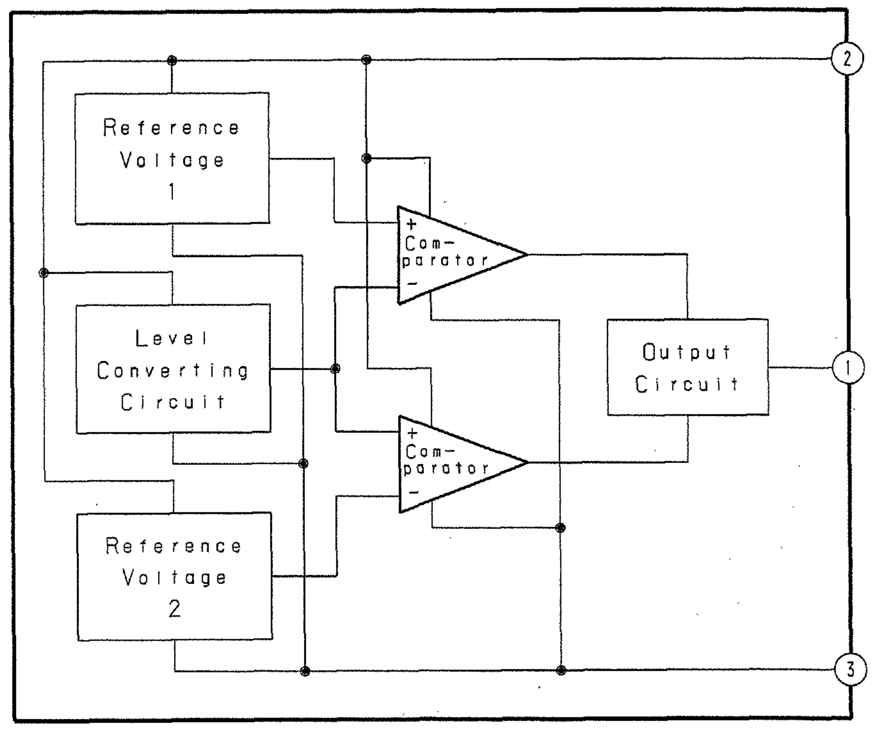
S Board

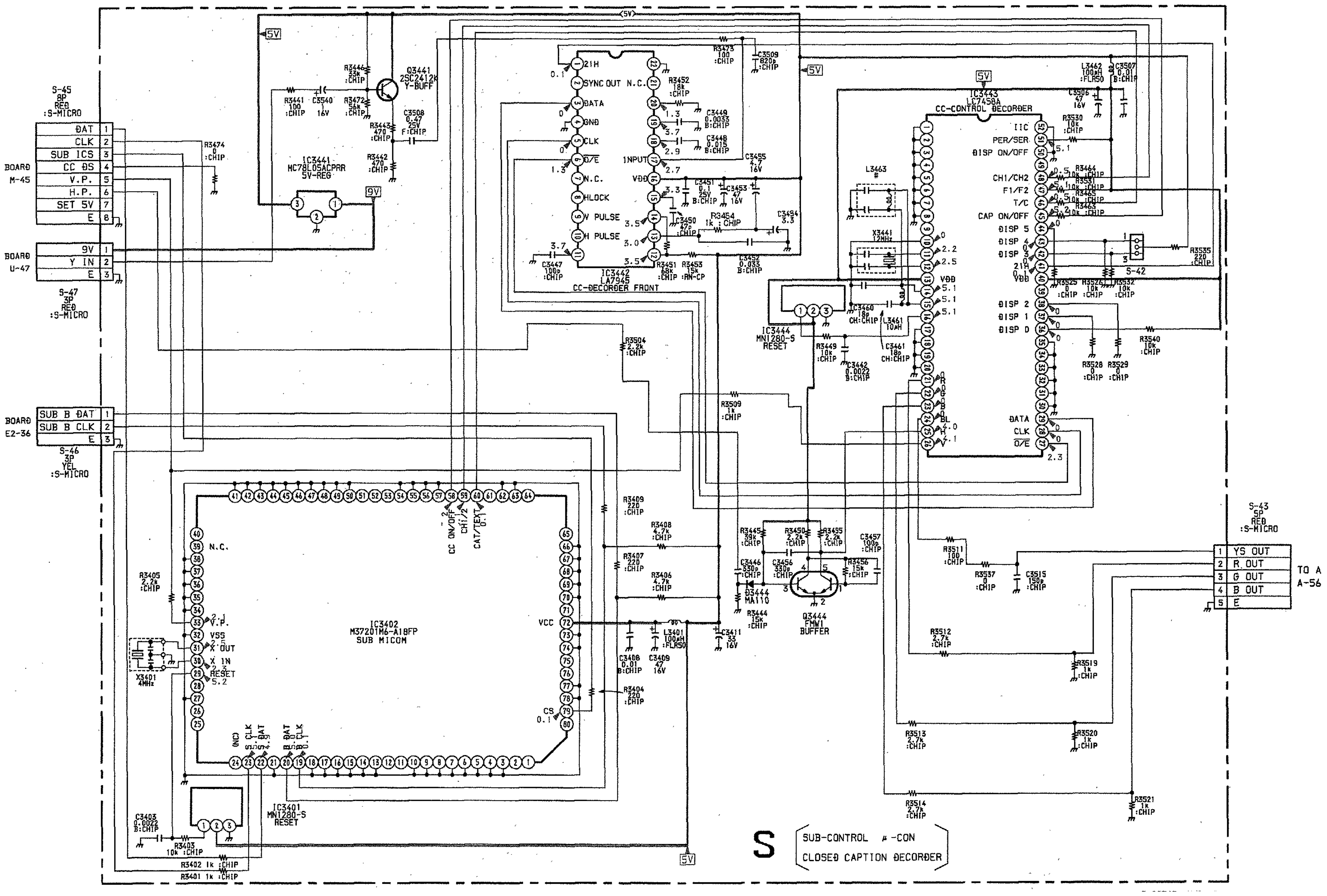
IC	TRANSISTOR
IC3401 C-3, F-1	Q3441 C-1
IC3402 C-3	Q3444 B-5
IC3441 B-1, G-1	
IC3442 C-2, F2	DIODE
IC3443 B-3, G-3	
IC3444 A-4, H-4	D3444 B-5

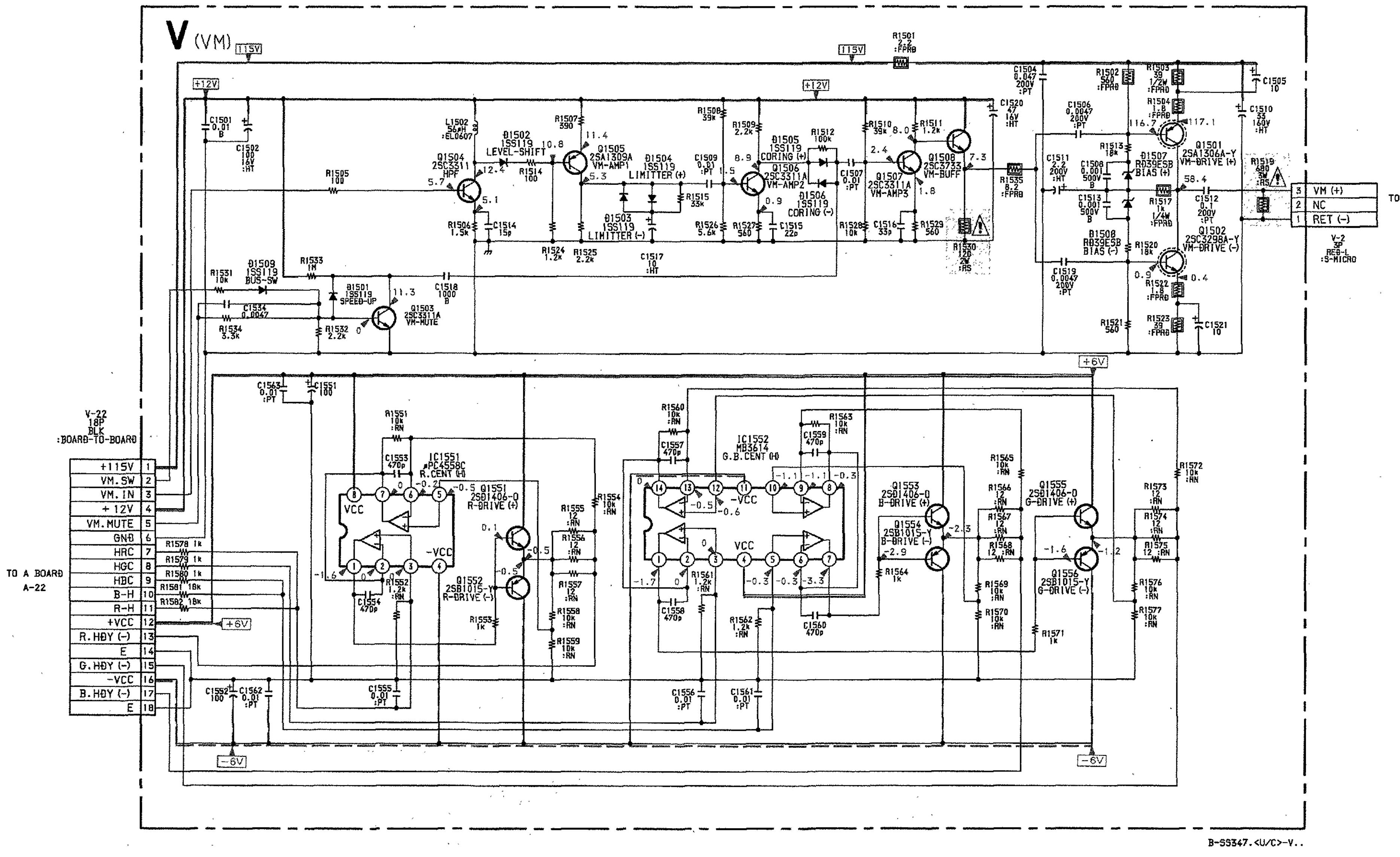
- ▒ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side

(8) SCHEMATIC DIAGRAMS OF S, V BOARDS

S Board IC3401 MN1280-S

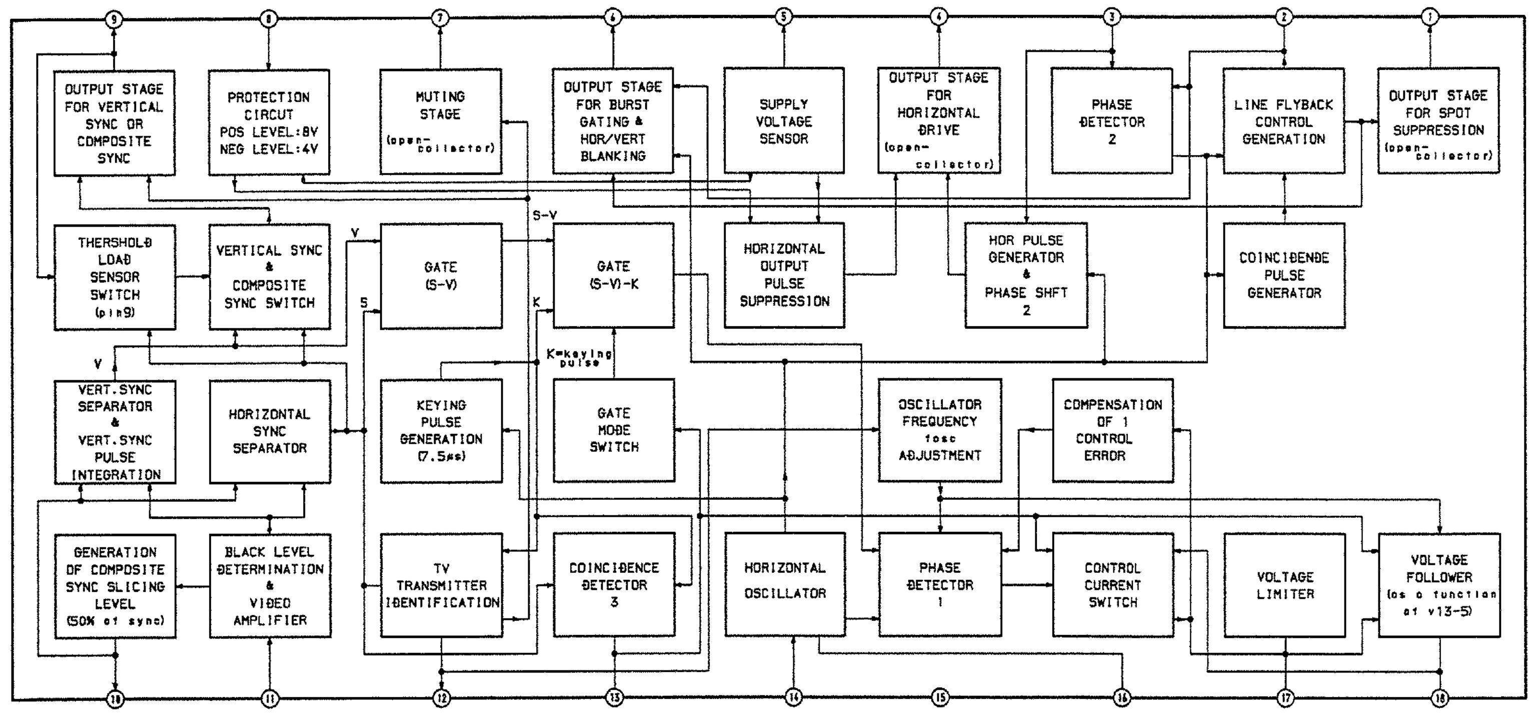

Reference Voltage 1
Level Converting Circuit
Reference Voltage 2
Com-parator
Com-parator
Output Circuit
1
2
3


S-45 8P RED :S-MICRO
TO M BOARD M-45
DAT 1
CLK 2
SUB ICS 3
CC DS 4
V.P. 5
H.P. 6
SET SV 7
E 8
TO U BOARD U-47
9V 1
Y IN 2
E 3
S-47 3P RED :S-MICRO
TO E2 BOARD E2-36
SUB B DAT 1
SUB B CLK 2
E 3
S-46 3P YEL :S-MICRO
5V
IC3441 NC78L05ACPRR 5V-REG
Q3441 2SC2412K Y-BUFF
IC3442 LA7945 CC-DECODER FRONT
IC3443 CX7450A CC-CONTROL DECODER
IC3444 MN1280-S RESET
IC3402 M37201M6-A18FP SUB MICOM
IC3401 MN1280-S RESET
X3401 4MHz
Q3444 DTM11 BUFFER
S-43 5P RED :S-MICRO
TO A BOARD A-56
YS OUT 1
R OUT 2
G OUT 3
B OUT 4
E 5
S
SUB-CONTROL μ-CON
CLOSED CAPTION DECODER

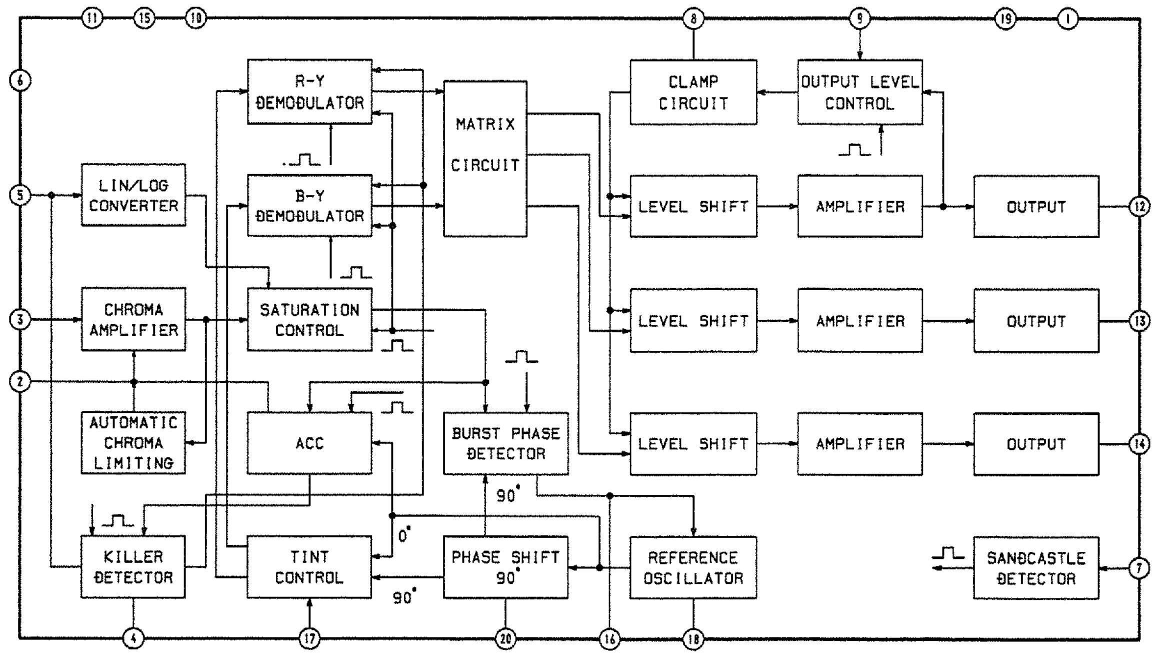

V (VM)
115V
+12V
Q1504 2SC5311 HPF
Q1503 2SC5311A VM-MUTE
Q1505 2SA1309A VM-AMP1
Q1506 2SC5311A VM-AMP2
Q1507 2SC5311A VM-AMP3
Q1508 2SC3298 VM-BUFF
Q1501 2SA1306A-Y VM-DRIVE (+)
Q1502 2SC3298A-Y VM-DRIVE (-)
D1502 1SS119 LEVEL-SHIFT
D1504 1SS119 LIMITTER (+)
D1503 1SS119 LIMITTER (-)
D1509 1SS119 BUS-SW
D1501 1SS119 SPEED-UP
TO ZR BOARD ZR-3
3 VM (+)
2 NC
1 RET (-)
V-2 3P RED-L :S-MICRO
V-22 18P BLK :BOARD-TO-BOARD
TO A BOARD A-22
+115V 1
VM.SW 2
VM.IN 3
+12V 4
VM.MUTE 5
GND 6
HRC 7
HGC 8
HBC 9
R-H 10
B-H 11
+VCC 12
R.HDY (-) 13
E 14
G.HDY (-) 15
-VCC 16
B.HDY (-) 17
E 18
IC1551 uPC4558C R.CENT DC
IC1552 M5574 G.B.CENT DC
+6V
-6V
B-55347.<U/C>-V..

(9) SCHEMATIC DIAGRAM OF P1 BOARD

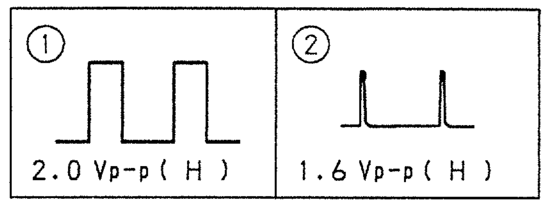
P1 BOARD IC3003 TDA2595

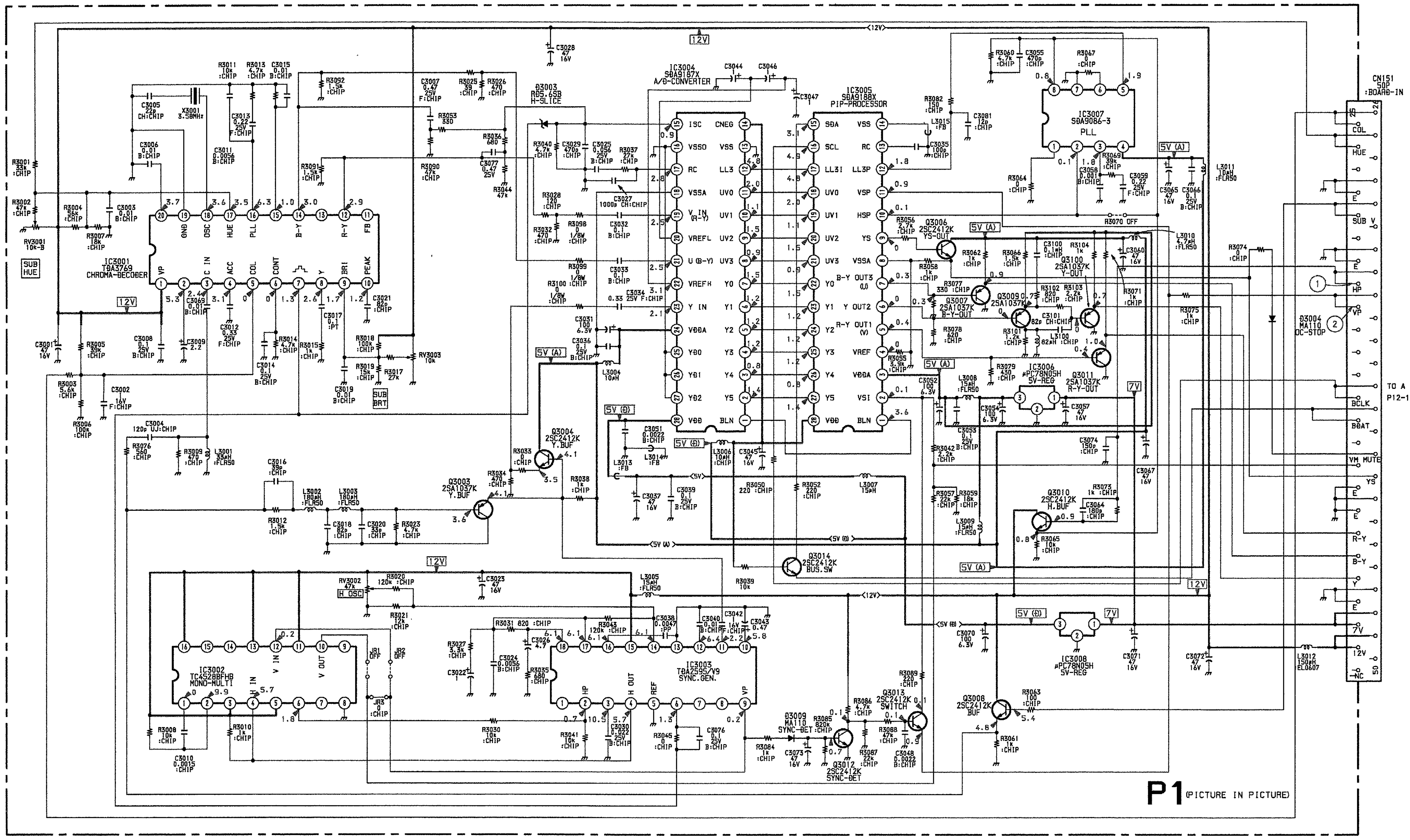

OUTPUT STAGE FOR VERTICAL SYNC OR COMPOSITE SYNC
PROTECTION CIRCUT POS LEVEL:8V NEG LEVEL:4V
MUTING STAGE (open-collector)
OUTPUT STAGE FOR BURST GATING & HOR/VERT BLANKING
SUPPLY VOLTAGE SENSOR
OUTPUT STAGE FOR HORIZONTAL DRIVE (open-collector)
PHASE DETECTOR 2
LINE FLYBACK CONTROL GENERATION
OUTPUT STAGE FOR SPOT SUPPRESSION (open-collector)
THERSHOLD LOAD SENSOR SWITCH (pin9)
VERTICAL SYNC & COMPOSITE SYNC SWITCH
S-V
V
S
K
GATE (S-V)
GATE (S-V)-K
HORIZONTAL OUTPUT PULSE SUPPRESSION
HOR PULSE GENERATOR & PHASE SHFT 2
COINCIDENDE PULSE GENERATOR
K=keying pulse
VERT.SYNC SEPARATOR & VERT.SYNC PULSE INTEGRATION
HORIZONTAL SYNC SEPARATOR
KEYING PULSE GENERATION (7.5μs)
GATE MODE SWITCH
OSCILLATOR FREQUENCY fosc ADJUSTMENT
COMPENSATION OF 1 CONTROL ERROR
GENERATION OF COMPOSITE SYNC SLICING LEVEL (50% of sync)
BLACK LEVEL DETERMINATION & VIDEO AMPLIFIER
TV TRANSMITTER IDENTIFICATION
COINCIDENCE DETECTOR 3
HORIZONTAL OSCILLATOR
PHASE DETECTOR 1
CONTROL CURRENT SWITCH
VOLTAGE LIMITER
VOLTAGE FOLLOWER (as a function of v13-5)
9
8
7
6
5
4
3
2
1
10
11
12
13
14
15
16
17
18

P1 BOARD IC3001 TDA3769


R-Y DEMODULATOR
B-Y DEMODULATOR
MATRIX CIRCUIT
CLAMP CIRCUIT
OUTPUT LEVEL CONTROL
LIN/LOG CONVERTER
LEVEL SHIFT
AMPLIFIER
OUTPUT
CHROMA AMPLIFIER
SATURATION CONTROL
AUTOMATIC CHROMA LIMITING
ACC
BURST PHASE DETECTOR
90°
0°
KILLER DETECTOR
TINT CONTROL
PHASE SHIFT 90°
REFERENCE OSCILLATOR
SANDCASTLE DETECTOR
11
15
10
8
9
19
1
6
5
3
2
12
13
14
7
4
17
20
16
18

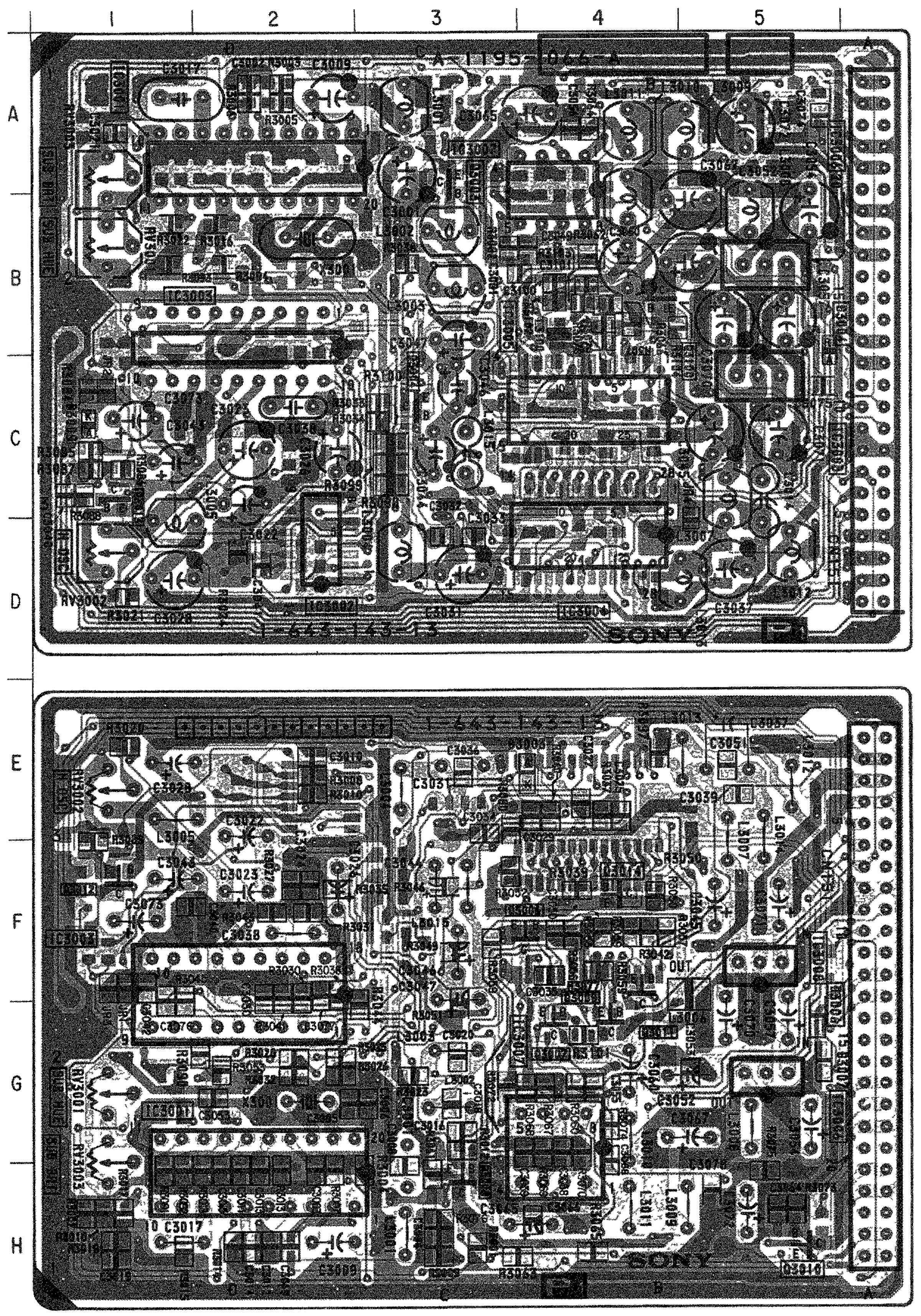
• P1 BOARD WAVEFORMS




IC3001 TDA3769 CHROMA-DECODER
IC3002 TC4528BFHB MONO-MULTI
IC3003 TDA2595/V9 SYNC.GEN.
IC3004 SDA9187X A/D-CONVERTER
IC3005 SDA9188X PIP-PROCESSOR
IC3006 μPC78N05H 5V-REG
IC3007 SDA9086-3 PLL
IC3008 μPC78N05H 5V-REG
CN151 30P :BOARD-IN
TO A BOARD P12-1
P1 (PICTURE IN PICTURE)
B-55349.<U/C>-P1.

P1 [PICTURE IN PICTURE]

– P1 Board –



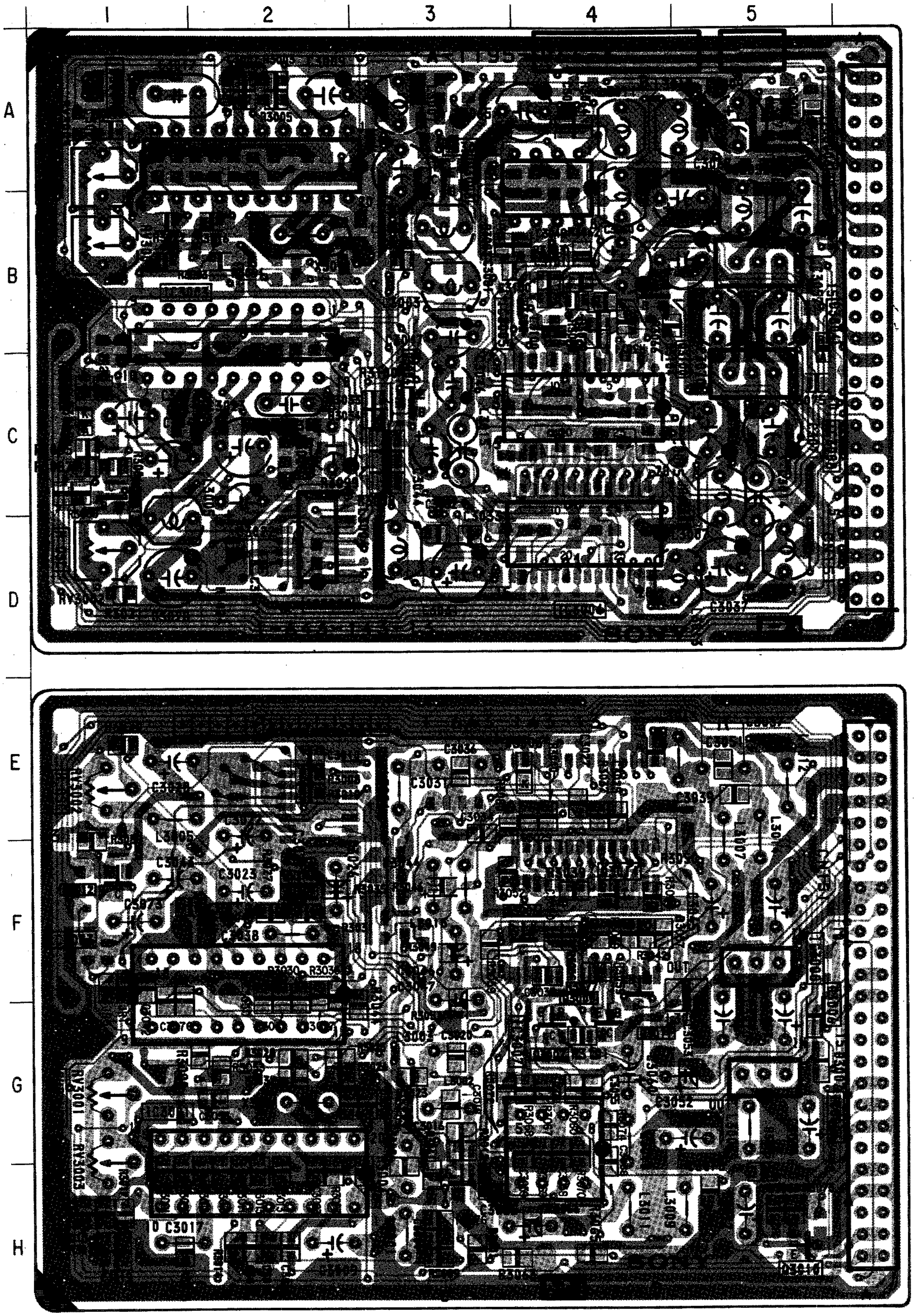
P1 Board

IC	
IC3001	A-2, G-2
IC3002	D-2
IC3003	B-2, F-2
IC3004	D-4
IC3005	C-4
IC3006	B-5, G-5
IC3007	A-4, G-4
IC3008	C-5, F-5
TRANSISTOR	
Q3003	A-3
Q3004	C-3
Q3006	F-4
Q3007	G-4
Q3008	H-3
Q3009	G-4
Q3010	H-5
Q3011	F-4
Q3012	F-1
Q3013	C-1
Q3014	F-4
Q3100	B-4
DIODE	
D3003	E-4
D3004	B-5
D3009	C-1
VARIABLE RESISTOR	
RV3001	B-1, G-1
RV3002	D-1, E-1
RV3003	A-1, G-1

- ● : Pattern from the side which enables seeing.
- ● ▨ : Pattern of the rear side.

P1 [PICTURE IN PICTURE]

– **P1 Board** –


1
2
3
4
5
A
B
C
D
E
F
G
H
RV3001
RV3003
RV3002
C3017
C3023
C3038
C3037
L3005
L3007
R3030
R3005

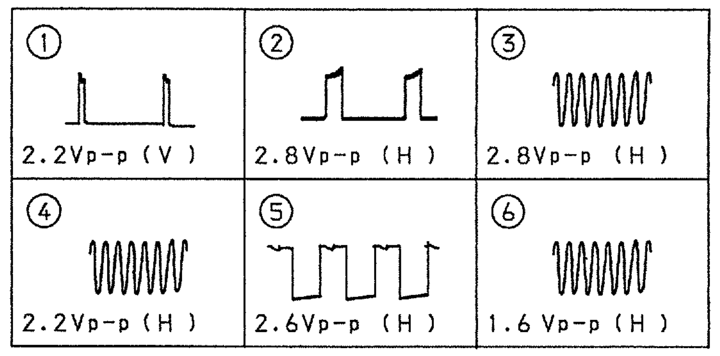
P1 Board

IC	
IC3001	A-2, G-2
IC3002	D-2
IC3003	B-2, F-2
IC3004	D-4
IC3005	C-4
IC3006	B-5, G-5
IC3007	A-4, G-4
IC3008	C-5, F-5
TRANSISTOR	
Q3003	A-3
Q3004	C-3
Q3006	F-4
Q3007	G-4
Q3008	H-3
Q3009	G-4
Q3010	H-5
Q3011	F-4
Q3012	F-1
Q3013	C-1
Q3014	F-4
Q3100	B-4
DIODE	
D3003	E-4
D3004	B-5
D3009	C-1
VARIABLE RESISTOR	
RV3001	B-1, G-1
RV3002	D-1, E-1
RV3003	A-1, G-1

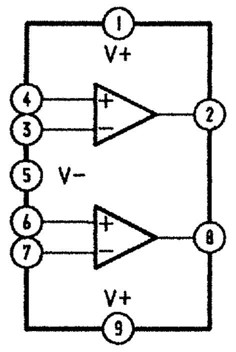
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

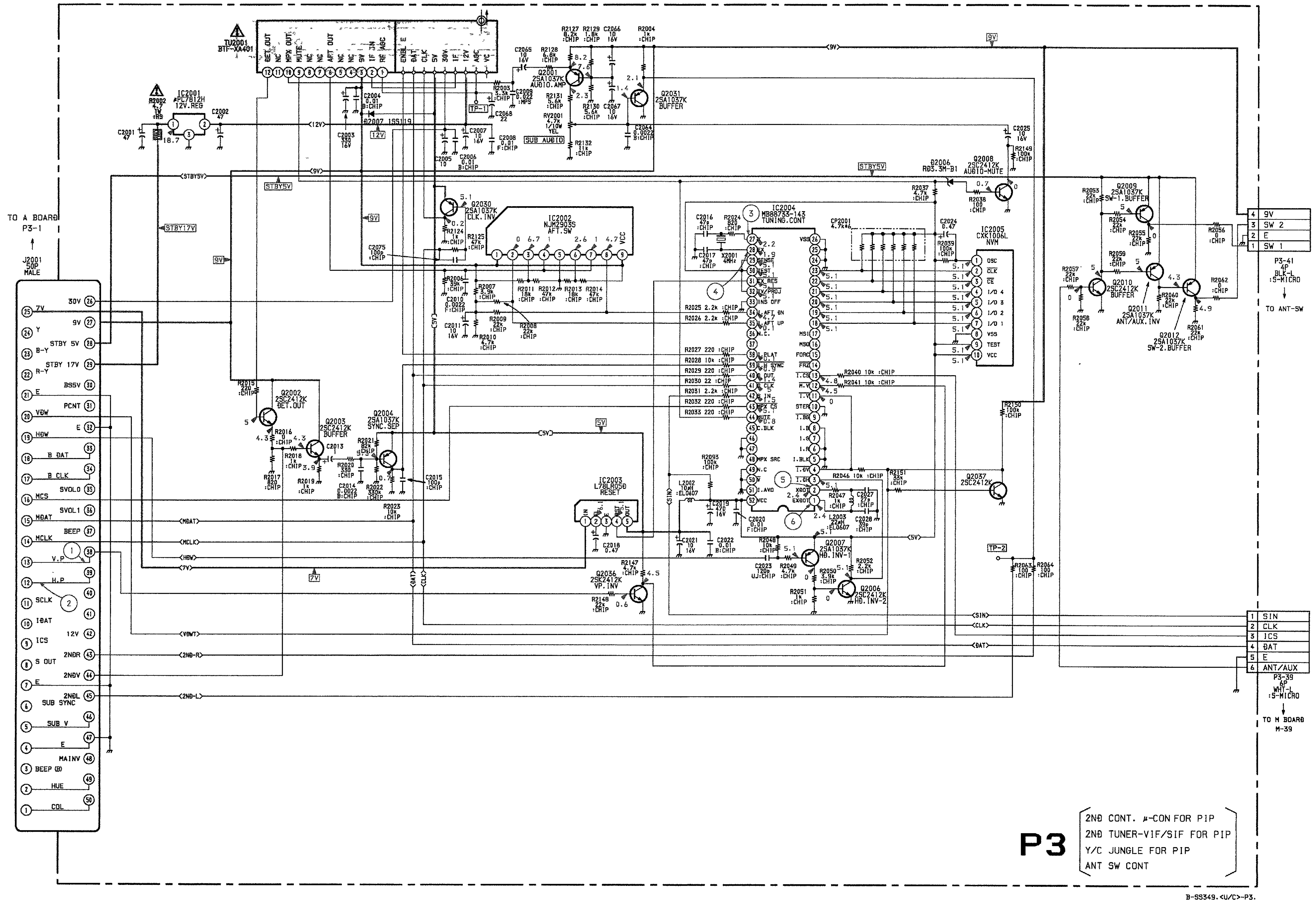
(10) SCHEMATIC DIAGRAM OF P3 BOARD

- P3 BOARD WAVEFORMS



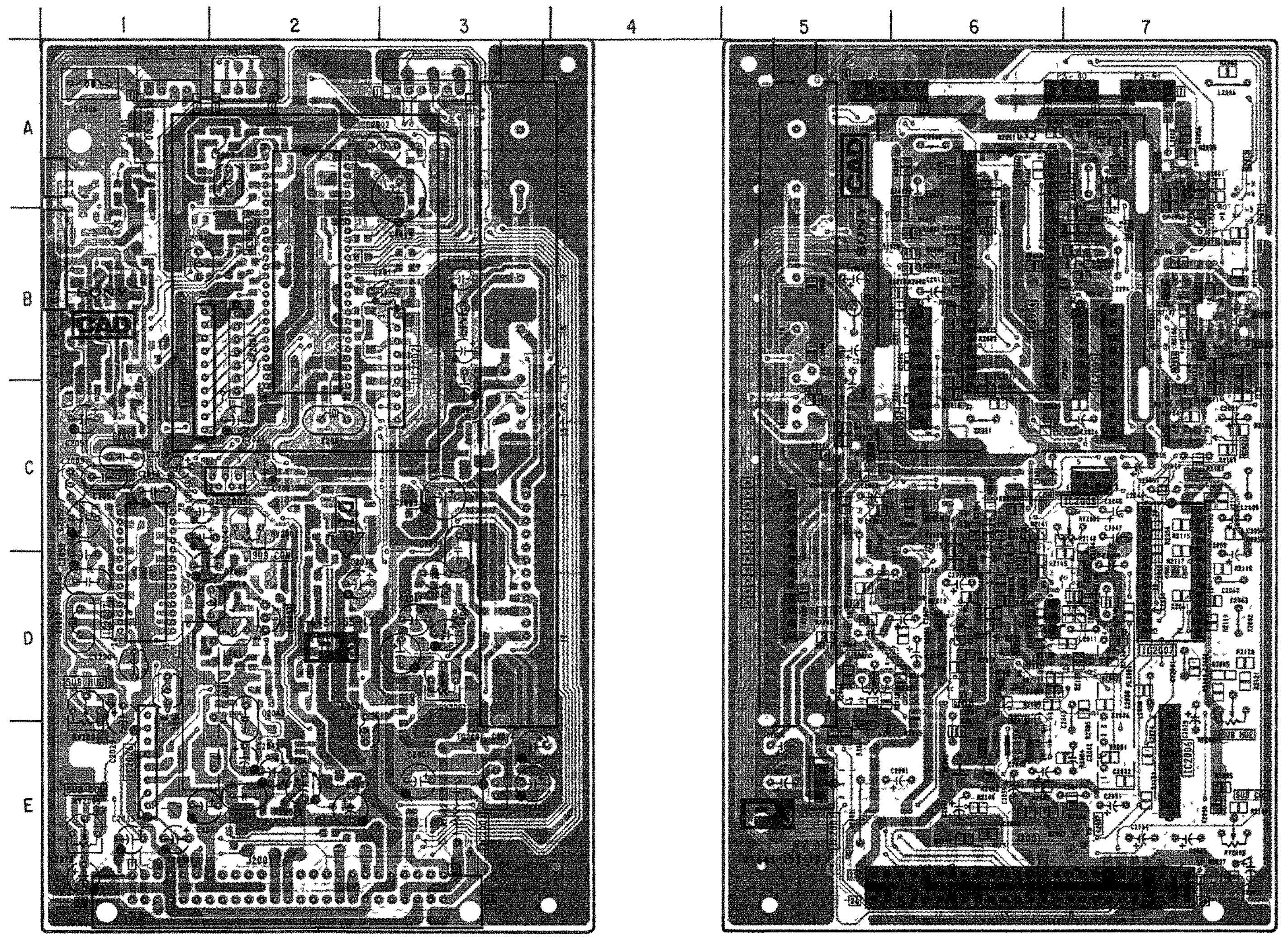
P3 Board IC2002 NJM2903S


①
V+
②
③
④
⑤
V-
⑥
⑦
⑧
V+
⑨


TU2001
BTF-XA401
IC2001
μPC7812H
12V.REG
IC2002
NJM2903S
AFT.SW
IC2003
L78LR05D
RESET
IC2004
MB88735-143
TUNING.CONT
IC2005
CXK1006L
NVM
Q2001 2SA1037K AUDIO.AMP
Q2031 2SA1037K BUFFER
Q2030 2SA1037K CLK.INV
Q2002 2SC2412K BET.OUT
Q2003 2SC2412K BUFFER
Q2004 2SA1037K SYNC.SEP
Q2036 2SC2412K VP.INV
Q2037 2SC2412K
Q2007 2SA1037K HD.INV-1
Q2006 2SC2412K HD.INV-2
Q2008 2SC2412K AUDIO MUTE
D2006 RD3.3M-B1
Q2009 2SA1037K SW-1.BUFFER
Q2010 2SC2412K BUFFER
Q2011 2SA1037K ANT/AUX.INV
Q2012 2SA1037K SW-2.BUFFER
RV2001
SUB AUDIO
TO A BOARD
P3-1
J2001
50P
MALE
30V 26
25 7V
9V 27
24 Y
STBY 5V 28
23 B-Y
STBY 17V 29
22 R-Y
BS5V 30
21 E
PCNT 31
20 VDW
E 32
19 HDW
18 B DAT 33
17 B CLK 34
SVOL0 35
16 MCS
SVOL1 36
15 MDAT
BEEP 37
14 MCLK
13 V.P 38
12 H.P 39
40
11 SCLK
41
10 IDAT
12V 42
9 ICS
2NDR 43
8 S OUT
2NDV 44
7 E
2NDL 45
6 SUB SYNC
5 SUB V 46
4 E 47
MAINV 48
3 BEEP (B)
2 HUE 49
1 COL 50
4 9V
3 SW 2
2 E
1 SW 1
P3-41
4P
BLK-L
:S-MICRO
TO ANT-SW
1 SIN
2 CLK
3 ICS
4 DAT
5 E
6 ANT/AUX
P3-39
6P
WHT-L
:S-MICRO
TO M BOARD
M-39
P3
2ND CONT. μ-CON FOR PIP
2ND TUNER-VIF/SIF FOR PIP
Y/C JUNGLE FOR PIP
ANT SW CONT
B-SS349.<U/C>-P3.

P3 2ND CONT. μ -CON FOR PIP,
2ND TUNER-VIF/SIF FOR PIP,
Y/C JUNGLE FOR PIP,
ANT SW. CONT

– P3 Board –

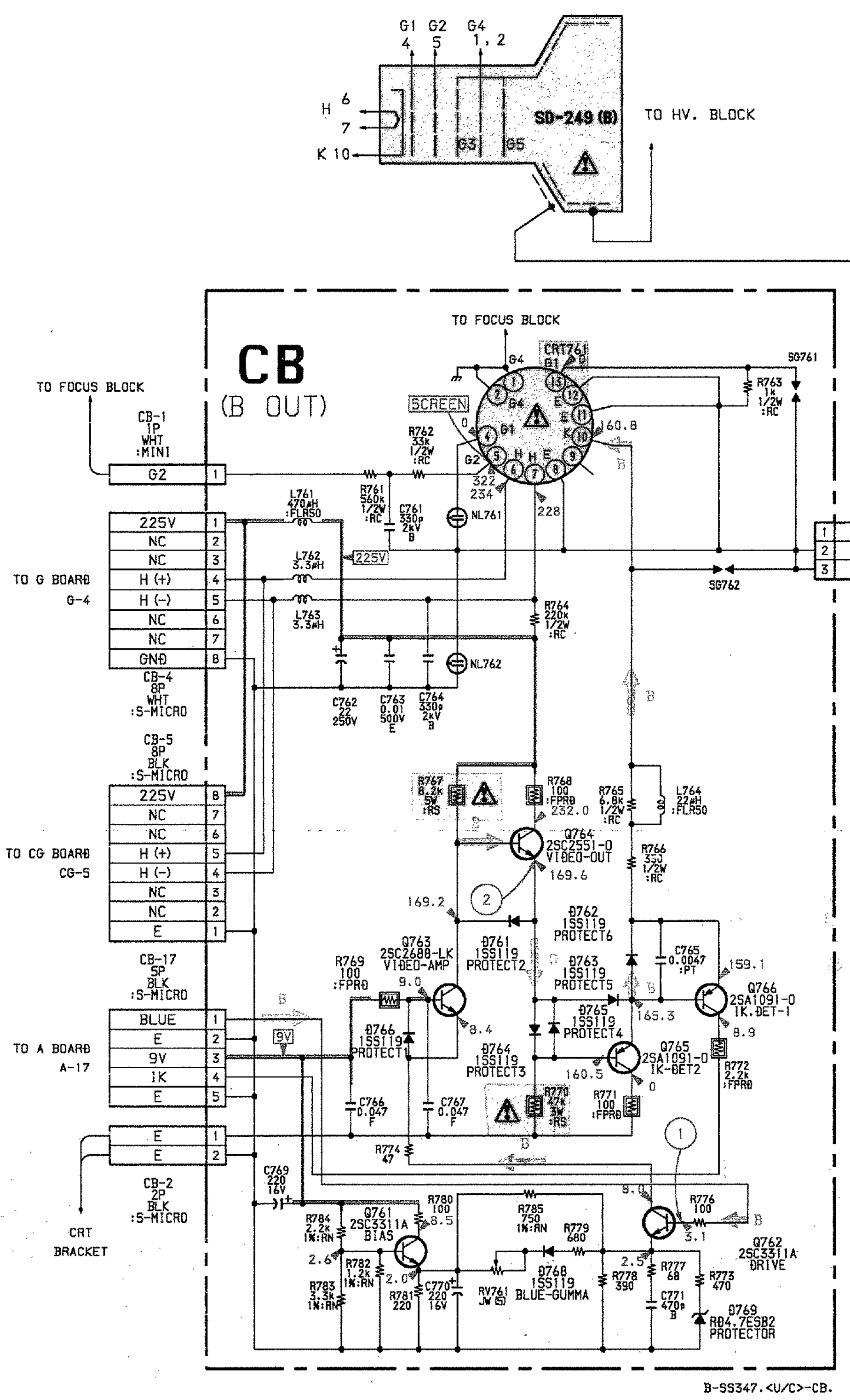

1
2
3
4
5
6
7
A
B
C
D
E

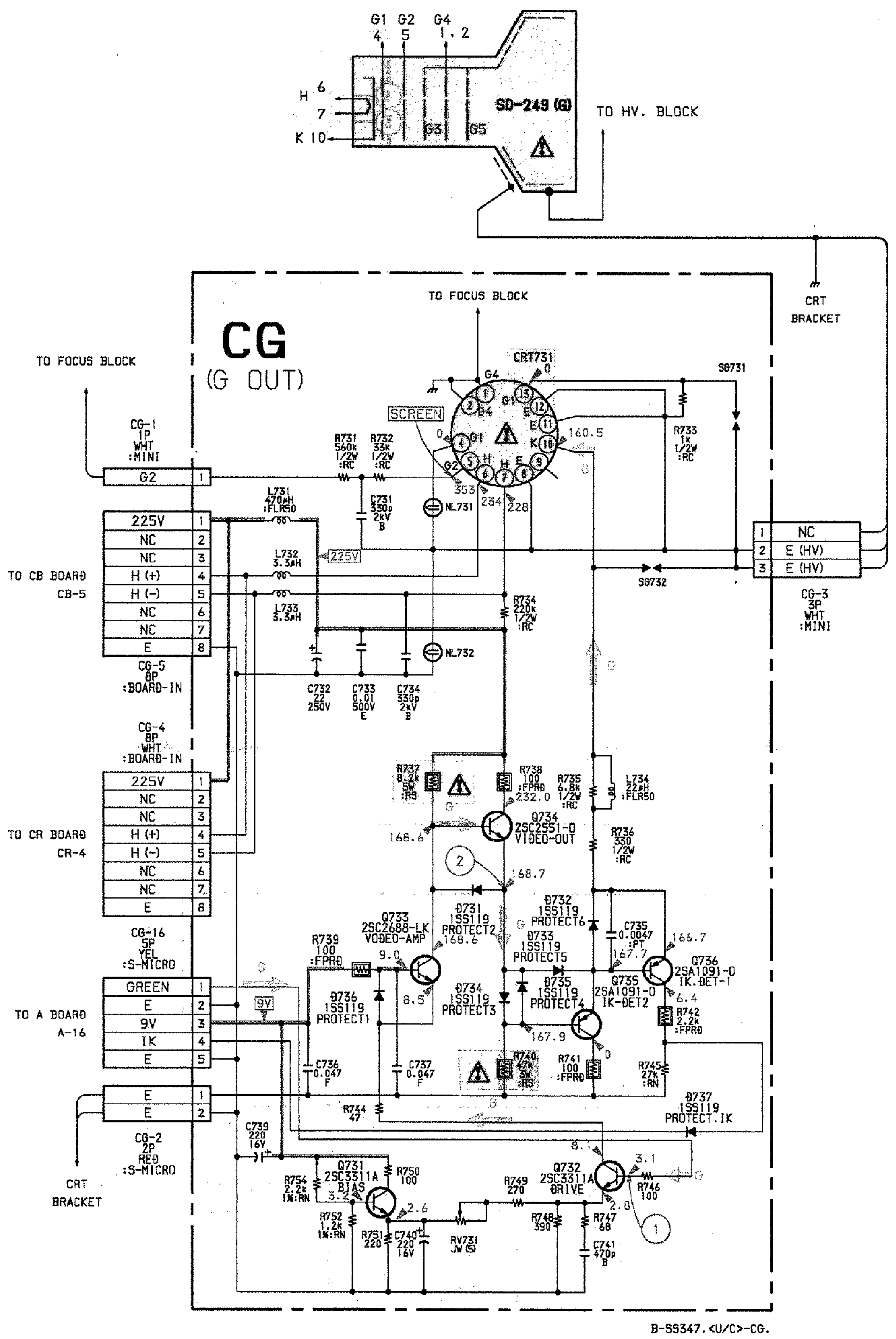
- ● : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

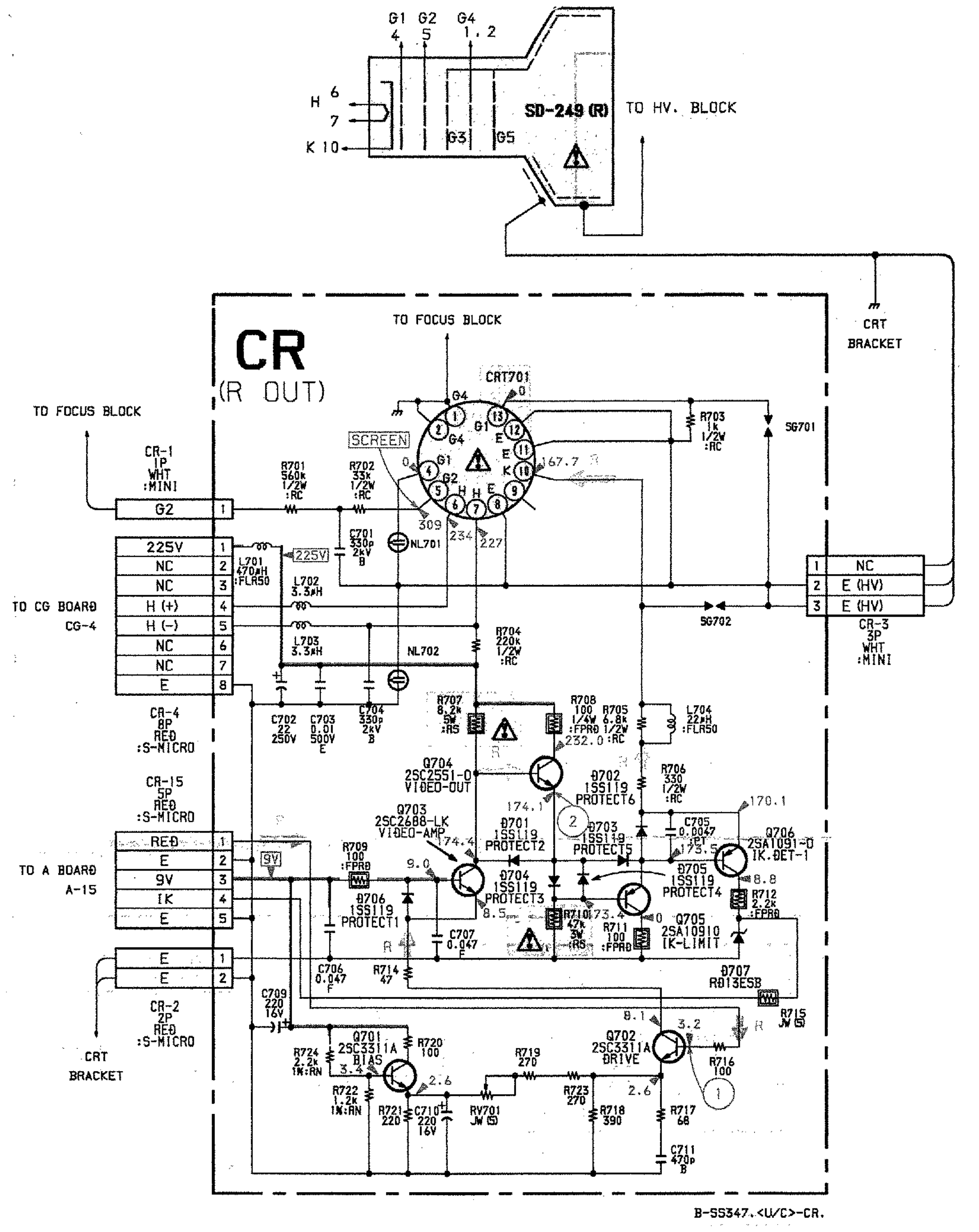
P3 Board

IC	
IC2001	E-3, E-5
IC2002	C-3, C-6
IC2003	C-2, C-7
IC2004	B-2, B-6
IC2005	C-1, C-7
TRANSISTOR	
Q2001	D-5
Q2002	D-6
Q2003	D-6
Q2004	C-6
Q2005	B-7
Q2006	A-6
Q2007	A-7
Q2008	D-5
Q2009	A-7
Q2010	B-7
Q2011	A-7
Q2012	A-7
Q2030	C-5
Q2031	D-5
Q2036	B-7
Q2037	E-7
DIODE	
D2006	C-6
VARIABLE RESISTOR	
RV2001	D-3, D-5
TUNER	
TU2001	D-3, D-5
CRYSTAL	
X2001	C-2, C-6

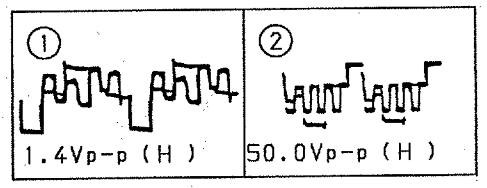
(11) SCHEMATIC DIAGRAMS OF CB, CG, CR, ZB, ZG AND ZR BOARDS


CB
(B OUT)
SD-249 (B)
TO HV. BLOCK
TO FOCUS BLOCK
CRT BRACKET
TO G BOARD G-4
TO CG BOARD CG-5
TO A BOARD A-17
2SC2551-O VIDEO-OUT
2SC2688-LK VIDEO-AMP
2SA1091-O IK.DET-1
2SC3311A DRIVE
B-SS347.<U/C>-CB.

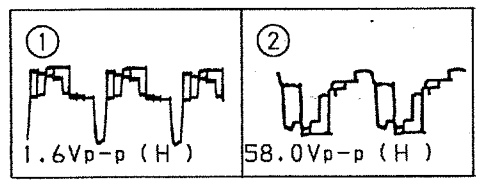

CG
(G OUT)
SD-249 (G)
TO HV. BLOCK
TO FOCUS BLOCK
CRT BRACKET
TO CB BOARD CB-5
TO CR BOARD CR-4
TO A BOARD A-16
2SC2551-O VIDEO-OUT
2SC2688-LK VIDEO-AMP
2SA1091-O IK.DET-1
2SC3311A DRIVE
B-SS347.<U/C>-CG.


CR
(R OUT)
SD-249 (R)
TO HV. BLOCK
TO FOCUS BLOCK
CRT BRACKET
TO CG BOARD CG-4
TO A BOARD A-15
2SC2551-O VIDEO-OUT
2SC2688-LK VIDEO-AMP
2SA1091-O IK.DET-1
2SA1091O IK-LIMIT
2SC3311A DRIVE
B-SS347.<U/C>-CR.

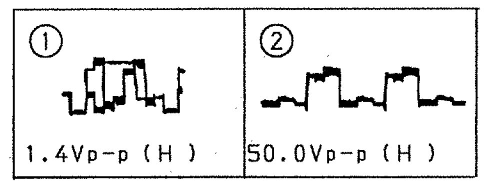
• CB BOARD WAVEFORMS

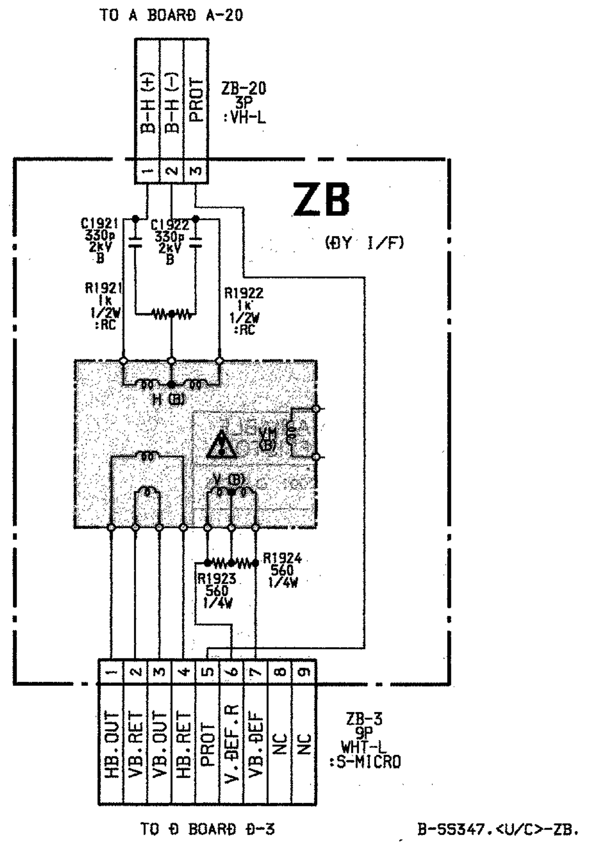


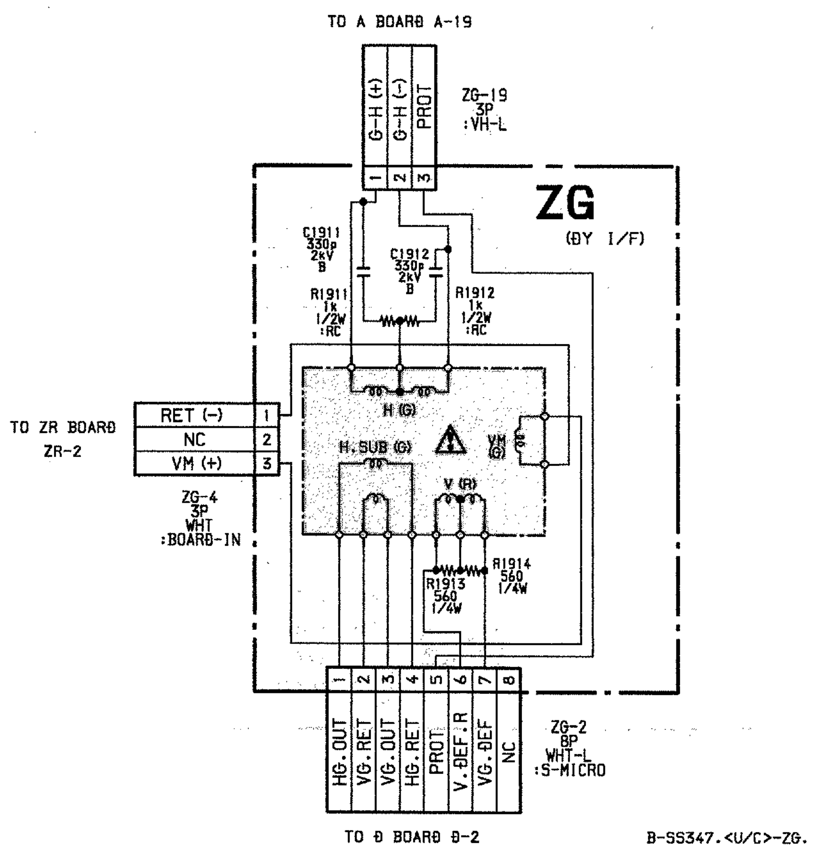
• CG BOARD WAVEFORMS

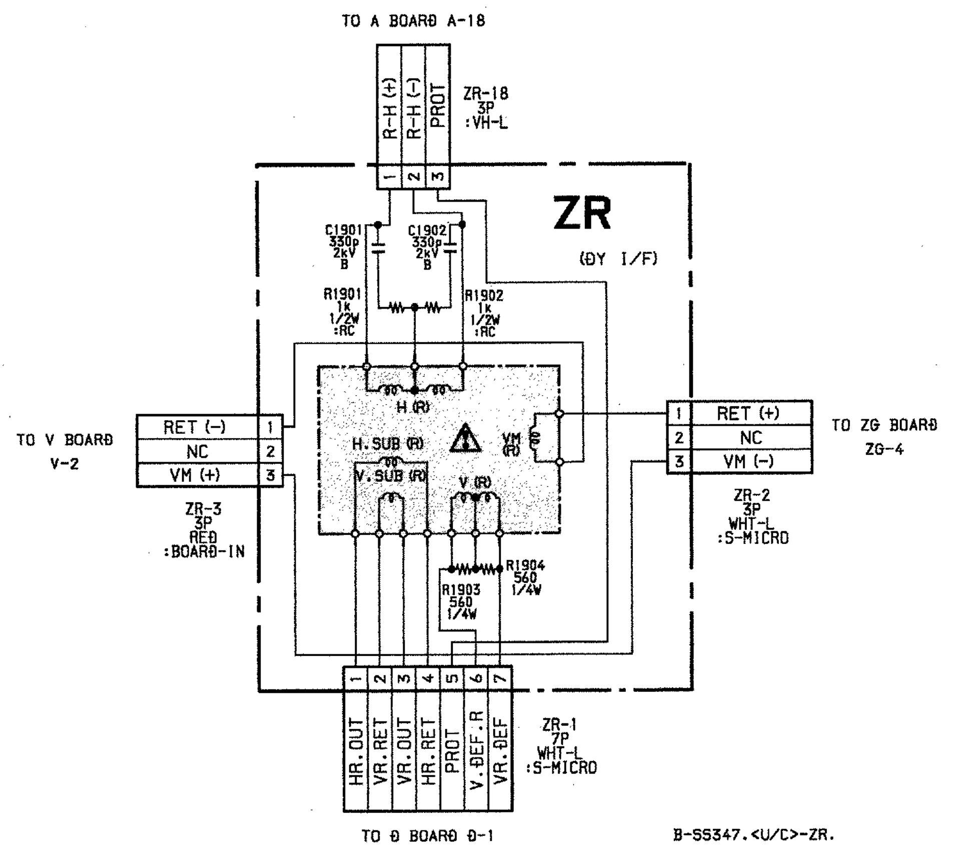


• CR BOARD WAVEFORMS



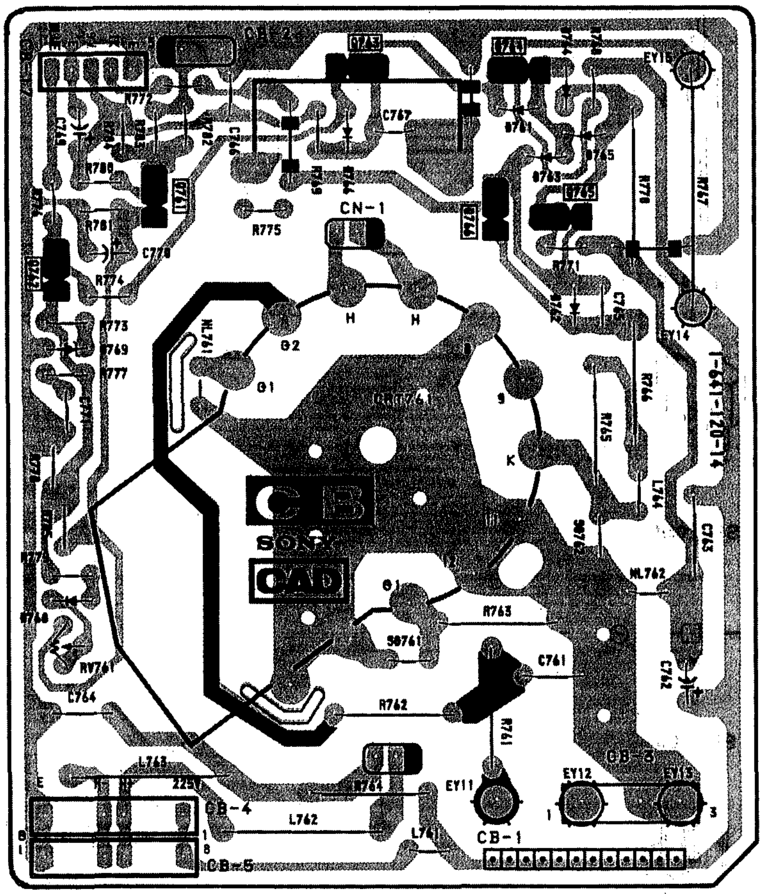

TO A BOARD A-20
ZB
(DY I/F)
ZB-20
ZB-3
TO D BOARD D-3
B-SS347.<U/C>-ZB.


TO A BOARD A-19
ZG
(DY I/F)
TO ZR BOARD ZR-2
ZG-19
ZG-4
ZG-2
TO D BOARD D-2
B-SS347.<U/C>-ZG.

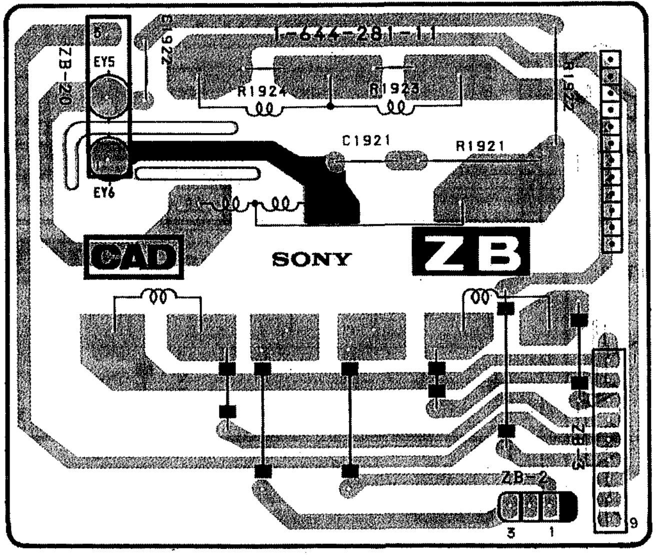

TO A BOARD A-18
ZR
(DY I/F)
TO V BOARD V-2
TO ZG BOARD ZG-4
ZR-18
ZR-3
ZR-2
ZR-1
TO D BOARD D-1
B-SS347.<U/C>-ZR.

CB [B OUT] **ZB** [DY I/F]

– CB Board –

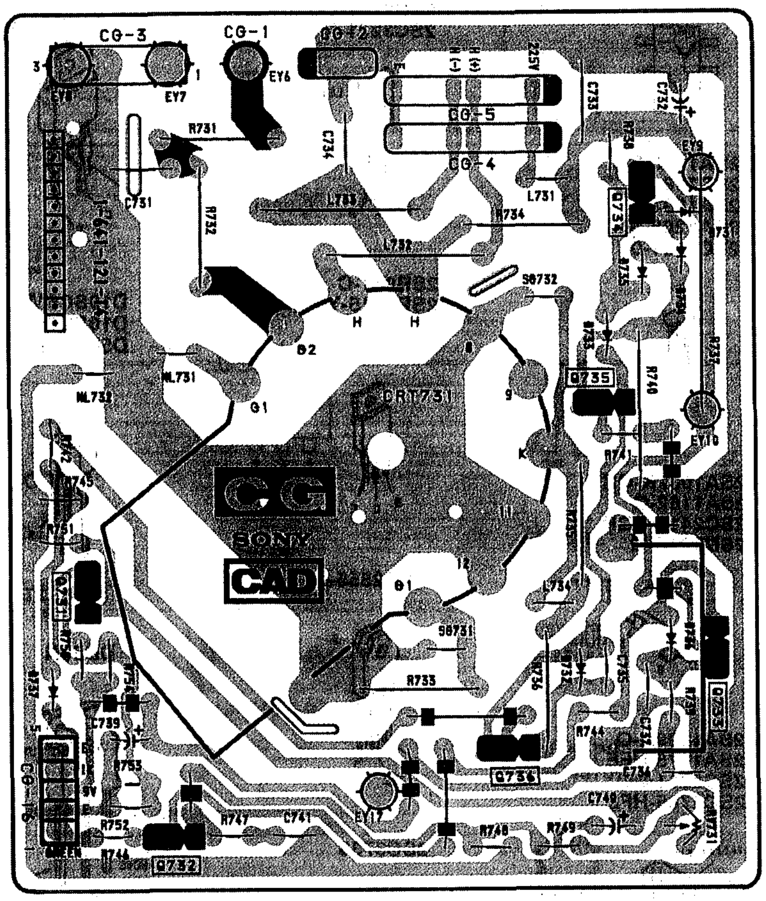

CB-2
CN-1
R775
R772
R780
R781
C770
R774
R773
R769
R777
C767
R771
R770
R767
EY15
EY14
1-641-120-14
G2
G1
H
H
9
K
CRT761
CB
SONY
CAD
NL761
NL762
R766
R765
L764
C763
SG762
R763
SG761
C761
C762
R762
R761
RV761
C764
L763
225V
R764
L762
L761
EY11
EY12
EY13
CB-3
CB-4
CB-5
CB-1
E
1
3
8

– ZB Board –

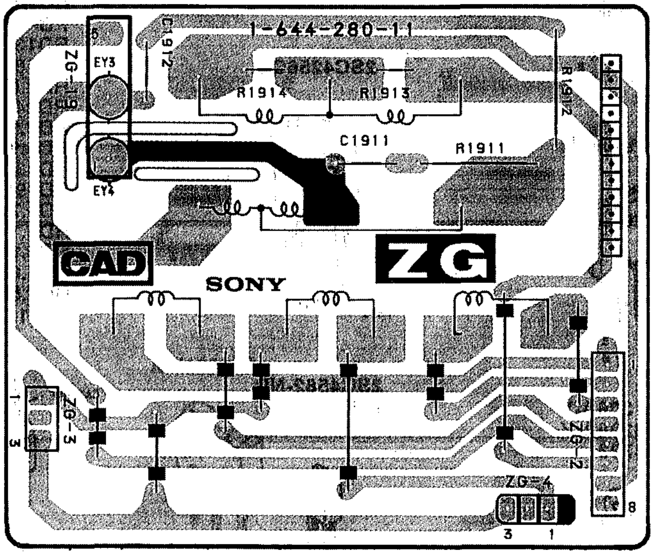

1-644-281-11
ZB-20
EY5
EY6
R1922
R1924
R1923
R1921
C1921
CAD
SONY
ZB
ZB-2
ZB-3
3
1
9

CG [G OUT] **ZG** [DY I/F]

– CG Board –

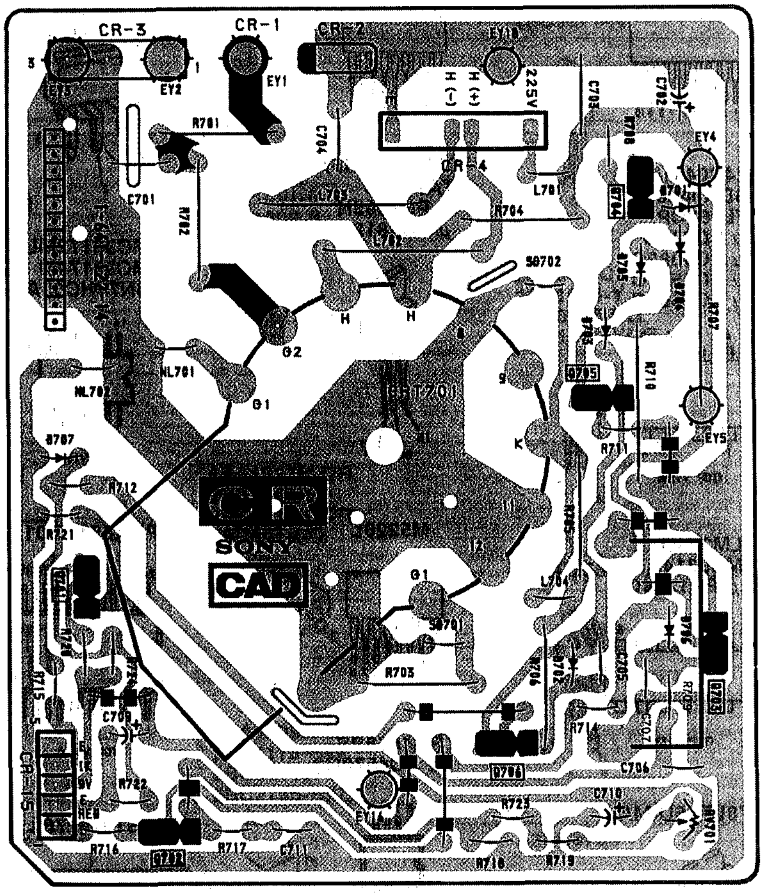

CG-3
CG-1
CG-2
EY6
EY7
EY8
CG-5
CG-4
225V
C733
C732
C734
R731
C731
R732
L733
L732
R734
L731
R736
Q734
D731
EY9
SG732
G2
H
G1
NL731
NL732
Q735
R740
EY10
CRT731
CG
SONY
CAD
R741
R742
R745
R751
Q731
G1
SG731
R733
L734
R736
R744
R743
C739
R753
9V
R752
R747
C741
EY17
Q736
C736
C740
R748
R749
RV731
R746
Q732
CG-6

– ZG Board –

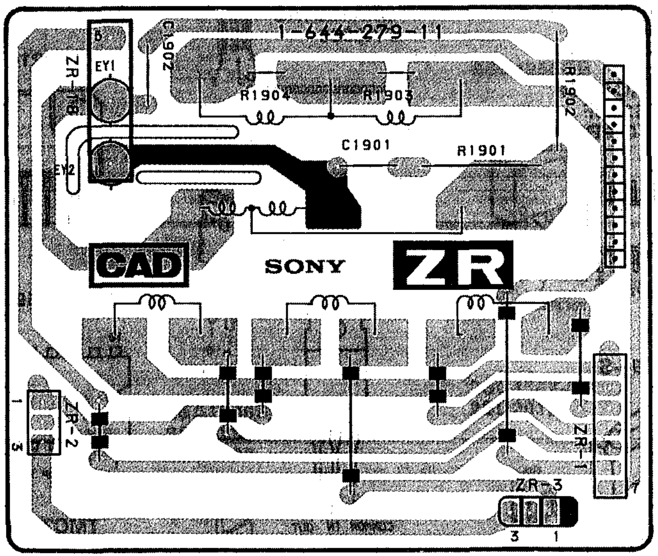

1-644-280-11
ZG-1
EY3
EY4
C1912
R1914
R1913
R1912
C1911
R1911
CAD
SONY
ZG
ZG-3
1
3
ZG-2
8
ZG-4
3
1

CR [R OUT] **ZR** [DY I/F]

– CR Board –

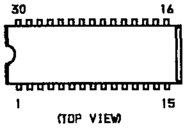

CR-3
CR-1
CR-2
EY1
EY2
EY3
EY4
EY5
EY10
EY14
H (+)
H (–)
225V
C703
C702
R701
C704
CR-4
L701
C701
L703
R704
R702
L702
SG702
H
G2
NL701
NL702
G1
CRT701
K
R712
R721
CR
SONY
CAD
SG701
R703
R715
C709
CR-15
R722
R716
Q702
R717
C711
R718
R719
R723
C710
RV701
C706
R714
Q706
C707
L704
R706
R711
R710
Q705
Q704

– ZR Board –

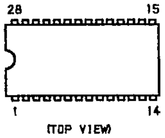

1-644-279-11
ZR-1B
EY1
EY2
C1902
R1904
R1903
R1902
C1901
R1901
CAD
SONY
ZR
ZR-2
1
3
ZR-1
7
ZR-3
3
1

6-7. SEMICONDUCTORS

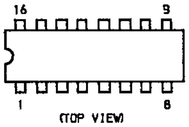
CXA1387S


30
16
1
15
(TOP VIEW)

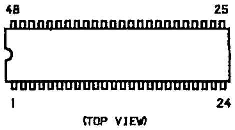
CXA1268P
SDA9187X
SDA9188X


28
15
1
14
(TOP VIEW)

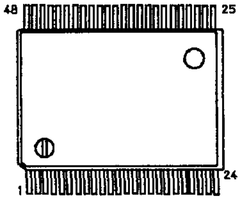
CXA1315M
CXA1315P
μ PD4053BC


16
9
1
8
(TOP VIEW)

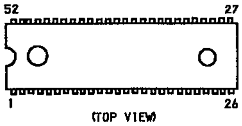
CXA1464AS


48
25
1
24
(TOP VIEW)

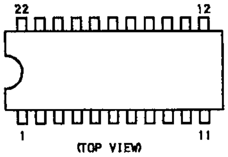
CXA1373Q
CXA1545S



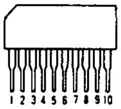
LC7458A-02


52
27
1
26
(TOP VIEW)

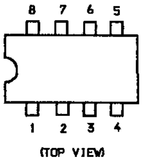
CXA1656S
LA7945


22
12
1
11
(TOP VIEW)

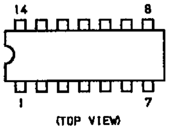
CXK1006L


1 2 3 4 5 6 7 8 9 10

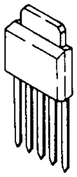
24C04AI/P
SDA9086-3
TL082CP
μ PC393C
μ PC4082C
μ PC4557C
μ PC4558C


8 7 6 5
1 2 3 4
(TOP VIEW)

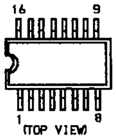
LM324N
MB3614
μ PC1394C


14
8
1
7
(TOP VIEW)

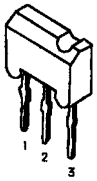
L78LR05D-MA



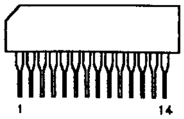
MC74HC4053F
MC14528BF
μ PD4052BG


16
9
1
8
(TOP VIEW)

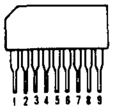
MN1280-S



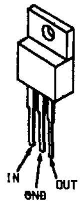
M51523AL



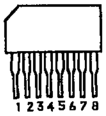
NJM2903S



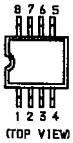
NJM78M05FA
TA7812S
μ PC7805H
μ PC7812H



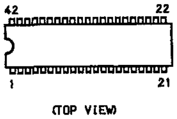
M5220L



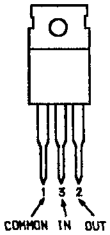
RC4558PS
μ PC4570G2


8 7 6 5
1 2 3 4
(TOP VIEW)

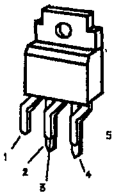
CXA1264AS
PA0036


42
22
1
21
(TOP VIEW)

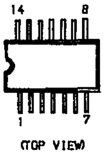
NJM79M05FA
NJM7915FA


1 3 2
COMMON IN OUT

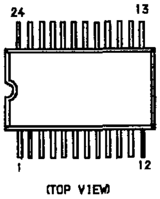
SI-3090CA



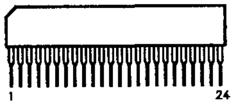
MC33172ML
MC33174M
SN74HC05ANS


14
8
1
7
(TOP VIEW)

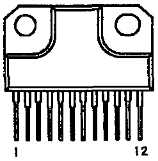
PCA8510T/012-T


24
13
1
12
(TOP VIEW)

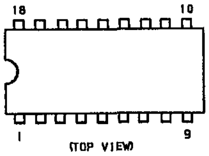
STK-4278L



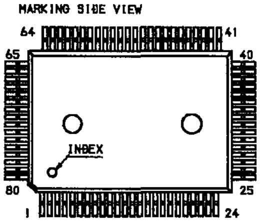
TA8216H



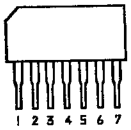
TDA2595-V9


18
10
1
9
(TOP VIEW)

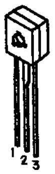
TMC73C247-10


MARKING SIDE VIEW
64
41
65
40
INDEX
80
25
1
24

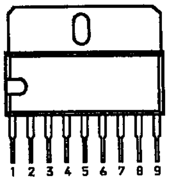
μPC1037HA



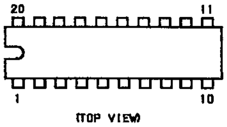
μPC78N05H



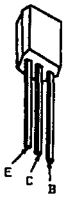
μPC1498H



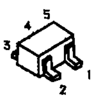
TA8184P
TDA3769


20
11
1
10
(TOP VIEW)

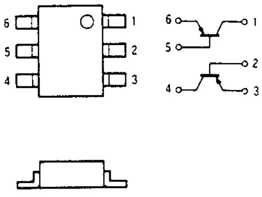
DTA124ES
DTC144ES
2SC3622A-LK



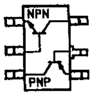
FMW1



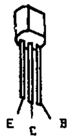
XN4401


6
5
4
1
2
3
6
5
4
1
2
3

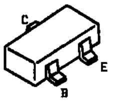
IMX3
IMZ1



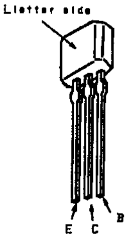
2SA1013-0
2SD788-5
2SA1091-0
2SA1208-S
2SC2551-0



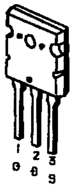
2SA1037K-QR
2SA1162-G
2SC2412K-QR
2SD601A-Q



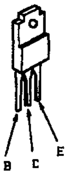
2SA1309A-Q
2SA1175-HFE
2SC3311A-Q
2SC2785-HFE


Letter side
E
C
B

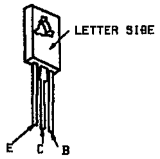
2SA1301-0



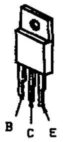
2SA1306A-Y
2SC3298A-Y
2SC4793



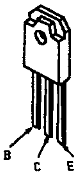
2SB649A-C
2SC2611
2SC2688-LK
2SC3271-N


LETTER SIDE
E
C
B

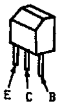
2SB861-C
2SB1015-Y
2SC3675-CB
2SD1406-YGR



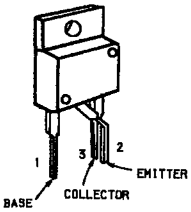
2SC2555-2



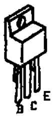
2SC3733



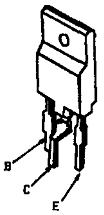
2SC4256CB


1
3
2
EMITTER
COLLECTOR
BASE

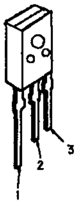
2SC4582-NP
2SD2012



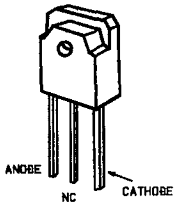
2SC4891-CA
2SD1887-CA



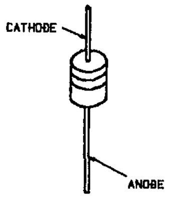
D10SC6M
D10SC6MR
D5KC40H



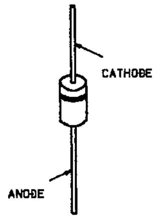
DD50R


ANODE
NC
CATHODE

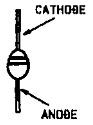
D1N20R
EGP10D
PB-100A
RD13ES-B2
RD18ES-B2
RD2.0ES-B1
RD24ES-B3
RD3.3ES-B2
RD3.9ES-B1
RD33ES-B2
RD39ES-B2
RD4.7ES-B2
RD5.1ES-B1
RD5.1ES-B2
RD5.6ES-B2
RD7.5ES-B1
1SS119


CATHODE
ANODE

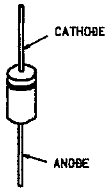
ERC06-15S
RU-1C
RU-2AM


CATHODE
ANODE

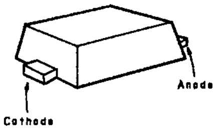
ERC38-06
V06C
V09G
V30N


CATHODE
ANODE

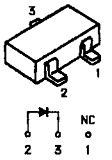
GP08D
RD27FB2
SB140


CATHODE
ANODE

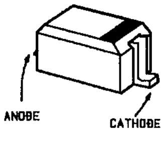
MA110
MA3130


Anode
Cathode

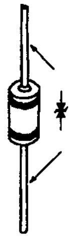
RD15M-B1
RD18M-B1
RD3.3M-B1
RD5.1M-B3



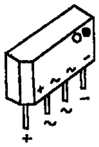
RD15S-B
RD5.6S-B
RD6.2S-B


ANODE
CATHODE

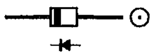
RD9.1E-W



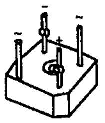
S1VB40



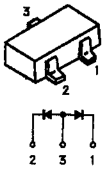
S3V10SB



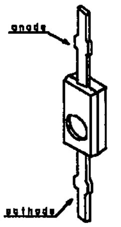
S5VB60



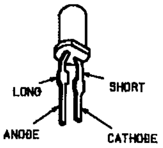
1S2836



1T33


anode
cathode

TLR124


LONG
SHORT
ANODE
CATHODE

SECTION 7
EXPLODED VIEWS

NOTE:

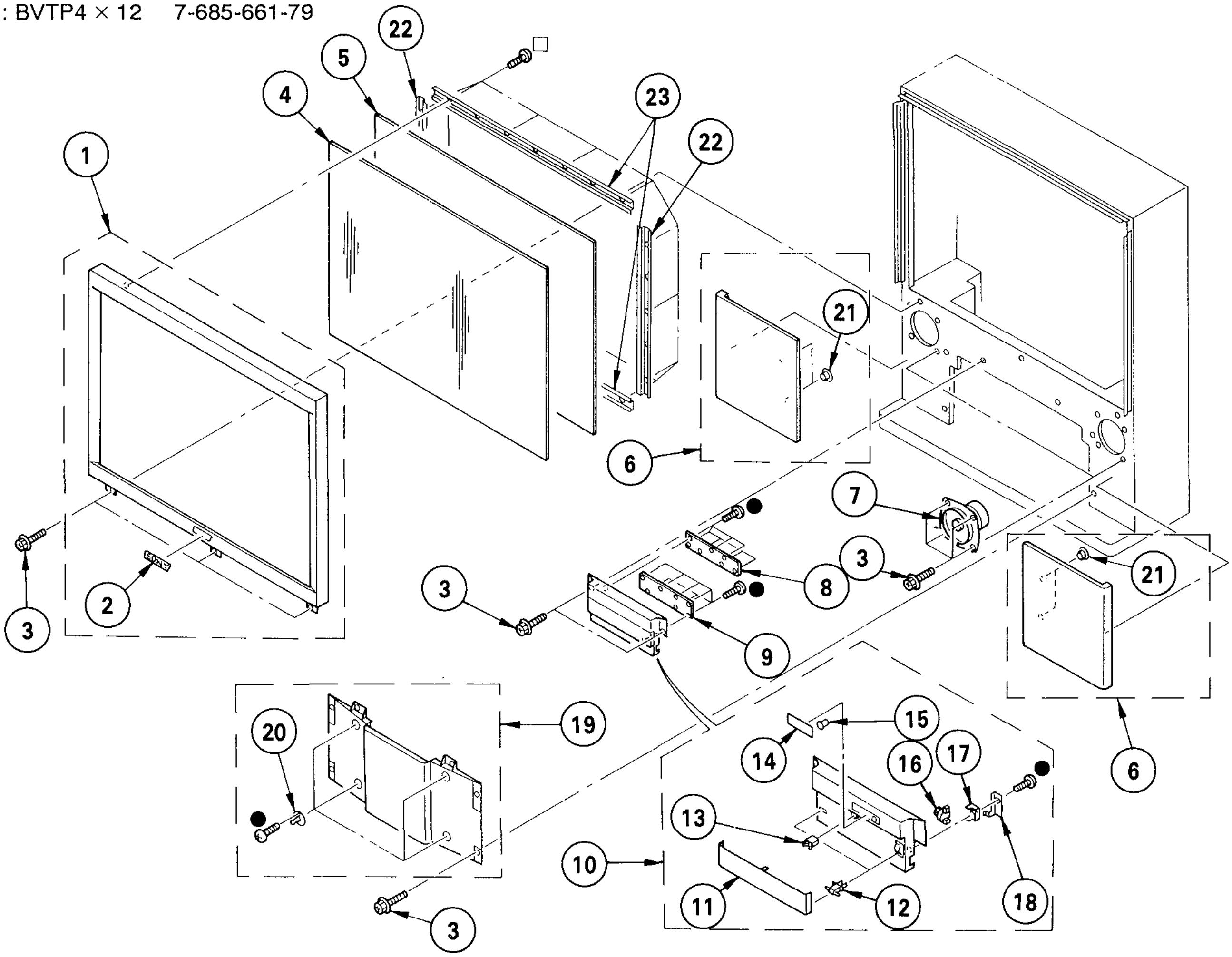
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie

7-1-1. SCREEN FRAME AND CONTROL PANEL (KP-46V15 (US/CND)/46V16)

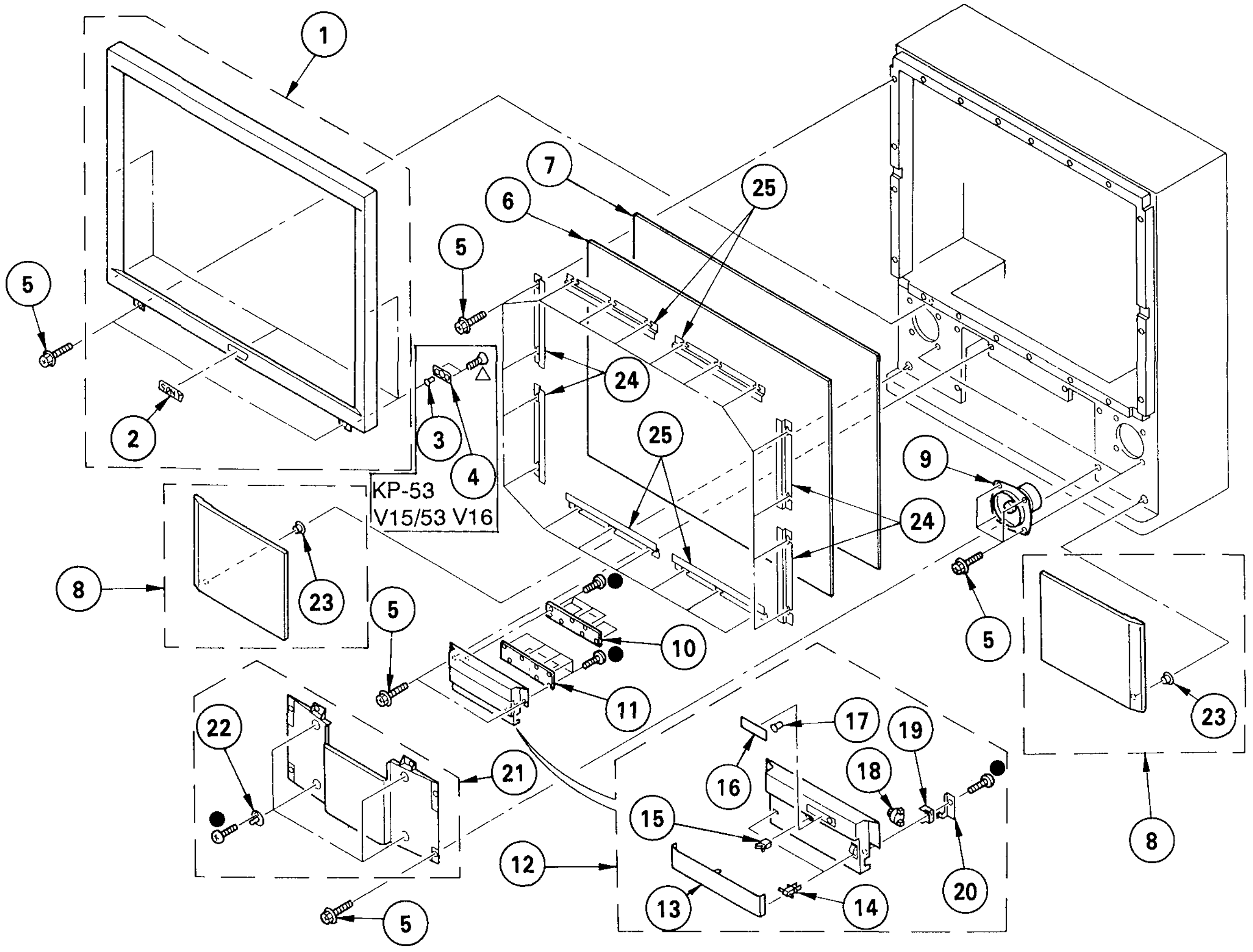
●: BVTP3 × 12 7-685-648-79
□: BVTP4 × 12 7-685-661-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4030-623-1	FRAME ASSY, SCREEN	2
2	4-381-079-01	EMBLEM (NO.10), SONY	
3	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	
4	4-037-360-11	PLATE (L), DIFFUSION	
5	4-037-359-11	PLATE (F), DIFFUSION	
6	X-4030-639-1	GRILLE ASSY, SPEAKER (KP-46V15(US/CND))	21
	X-4031-106-1	GRILLE ASSY, SPEAKER (KP-46V16)	21
7	1-544-768-11	SPEAKER (13CM) (COAXIAL)	
8	*1-643-591-11	H1 BOARD	
9	*1-643-592-13	H2 BOARD	
10	X-4031-107-1	PANEL ASSY, CONTROL (KP-46V16)	11~18
	X-4031-195-1	PANEL ASSY, CONTROL (KP-46V15(US/CND))	11~18
11	4-036-511-01	LID, CONTROL (KP-46V16)	
	4-036-511-11	LID, CONTROL (KP-46V15(US/CND))	
12	3-703-035-11	SHAFT, LID	
13	4-374-714-01	CATCH, PUSH	
14	4-036-510-21	PANEL, INDICATOR	
15	*4-374-987-01	GUIDE, LIGHT	
16	3-720-417-01	DAMPER, OIL	
17	4-397-047-01	HOLDER, DAMPER	
18	4-036-513-01	SPRING, LID	
19	X-4030-618-1	COVER ASSY, FRONT (KP-46V15(US/CND))	20
	X-4030-622-1	COVER ASSY, FRONT (KP-46V16)	20
20	4-843-806-00	STRIKE	
21	4-838-438-00	LATCH	
22	*4-036-092-21	HOLDER (S), SCREEN	
23	*4-036-091-21	HOLDER (L), SCREEN	

7-1-2. SCREEN FRAME AND CONTROL PANEL (KP-53V15/53V16/61V15 (US/CND))

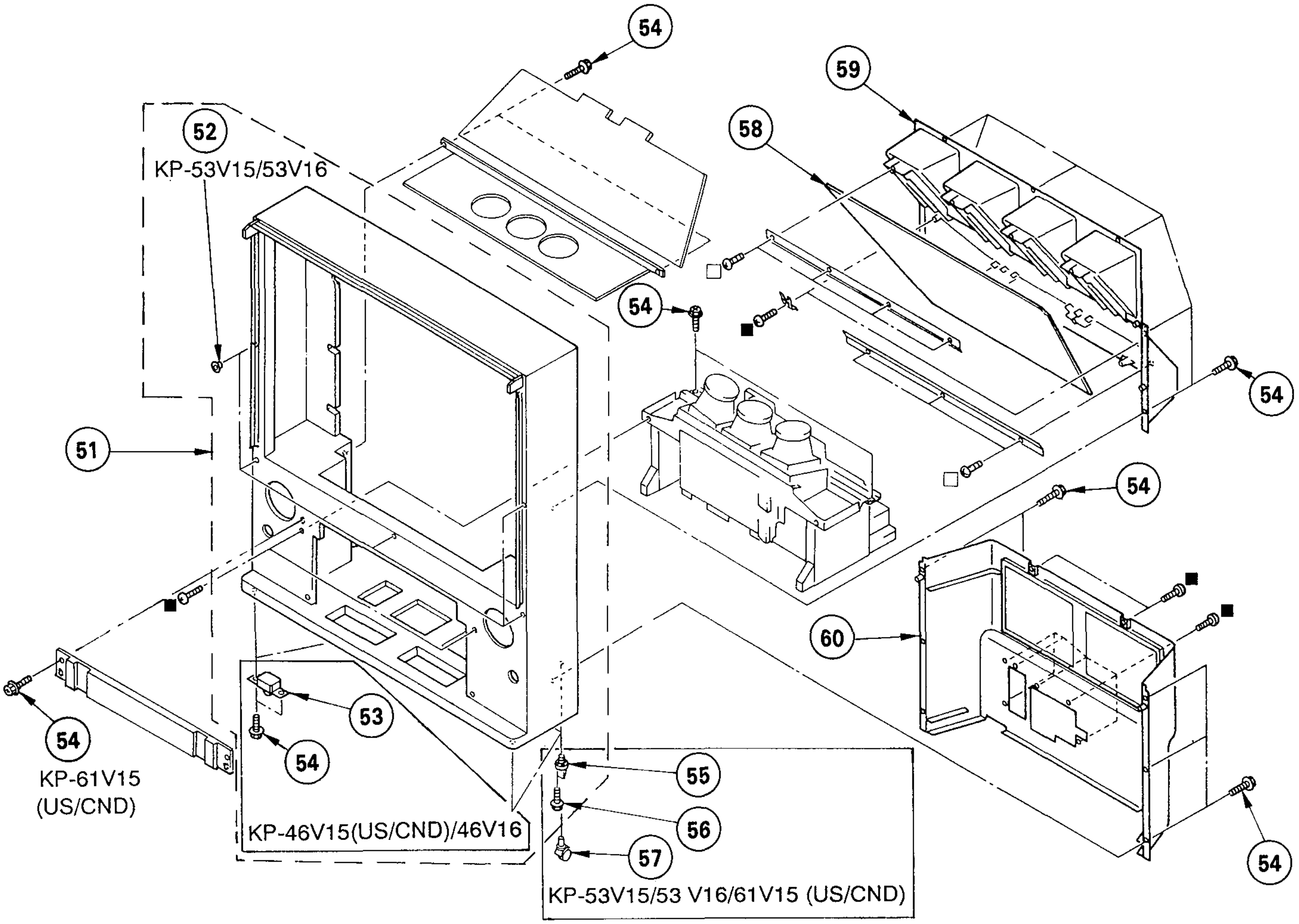
●: BVTP3 × 12 7-685-648-79
△: KTP3 × 10 7-685-247-14



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4030-616-1	FRAME ASSY, SCREEN (KP-53V15/53V16)	2
	X-4031-080-1	FRAME ASSY, SCREEN(KP-61V15(US/CND))	2
2	4-381-079-01	EMBLEM (NO.10), SONY (KP-61V15(US/CND))	
	4-381-079-21	EMBLEM (NO.10), SONY (KP-53V15/53V16)	
3	4-838-452-00	STRIKE (KP-53V15/53V16)	
4	4-838-453-00	SUPPORT (KP-53V15/53V16)	
5	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	
6	4-036-466-11	PLATE (L), DIFFUSION (KP-53V15/53V16)	
	4-040-124-11	PLATE (L), DIFFUSION (KP-61V15(US/CND))	
7	4-036-469-11	PLATE (F), DIFFUSION (KP-53V15/53V16)	
	4-040-123-11	PLATE (F), DIFFUSION (KP-61V15(US/CND))	
8	X-4030-637-1	GRILLE ASSY, SPEAKER (KP-53V15)	23
	X-4031-079-1	GRILLE ASSY, SPEAKER (KP-61V15(US/CND))	23
	X-4031-144-1	GRILLE ASSY, SPEAKER (KP-53V16)	23
9	1-544-768-11	SPEAKER (13CM) (COAXIAL)	
10	*1-643-591-11	H1 BOARD	
11	*1-643-592-11	H2 BOARD	
12	X-4031-107-1	PANEL ASSY, CONTROL (KP-53V16)	13~20
	X-4031-195-1	PANEL ASSY, CONTROL (KP-53V15)	13~20
	X-4031-267-1	PANEL ASSY, CONTROL (KP-61V15(US/CND))	13~20
13	4-036-511-01	LID, CONTROL (KP-53V16)	
	4-036-511-11	LID, CONTROL (KP-53V15/61V15(US/CND))	
14	3-703-035-11	SHAFT, LID	
15	4-374-714-01	CATCH, PUSH	
16	4-036-510-21	PANEL, INDICATOR	
17	*4-374-987-01	GUIDE, LIGHT	
18	3-720-417-01	DAMPER, OIL	
19	4-397-047-01	HOLDER, DAMPER	
20	4-036-513-01	SPRING, LID	
21	X-4030-615-1	COVER ASSY, FRONT (KP-53V16)	22
	X-4030-619-1	COVER ASSY, FRONT (KP-53V15/61V15(US/CND))	22
22	4-843-806-00	STRIKE	
23	4-838-438-00	LATCH	
24	*4-036-499-01	HOLDER (S), SCREEN (KP-53V15/53V16)	
	*4-040-122-01	HOLDER (S), SCREEN (KP-61V15(US/CND))	
25	*4-036-498-01	HOLDER (L), SCREEN (KP-53V15/53V16)	
	*4-040-120-01	HOLDER (L), SCREEN (KP-61V15(US/CND))	

7-2. CABINET

□: BVTP4 × 12 7-685-661-79
■: BVTP4 × 16 7-685-663-79


54
59
58
52
KP-53V15/53V16
54
□
■
54
51
□
54
■
■
60
■
53
54
54
KP-61V15
(US/CND)
55
KP-46V15(US/CND)/46V16
56
57
54
KP-53V15/53 V16/61V15 (US/CND)

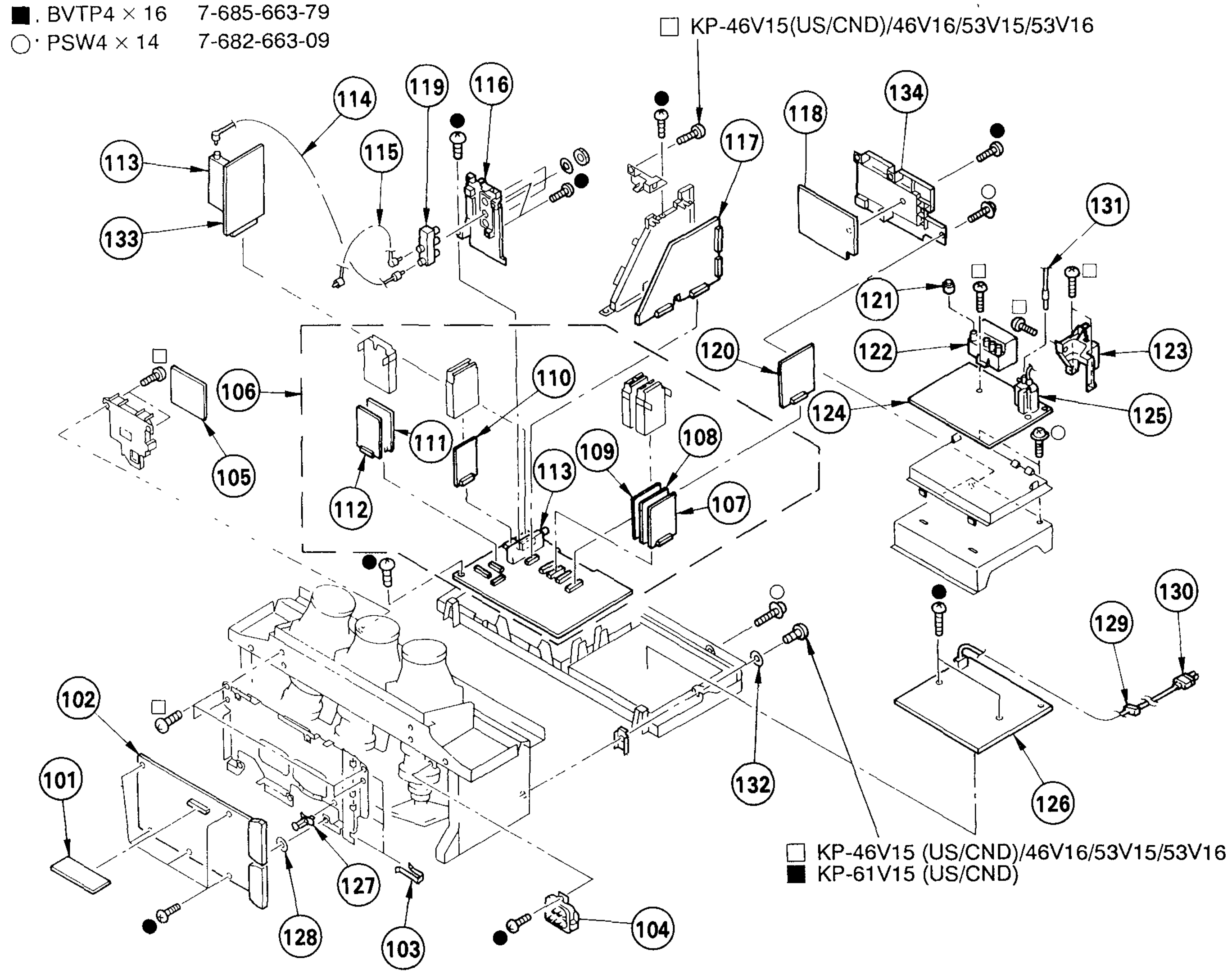
REF.NO.	PART NO.	DESCRIPTION	REMARK
51	*X-4031-081-1	CABINET ASSY (KP-61V15(US/CND))	55,56
	*X-4031-105-1	CABINET ASSY (KP-46V16)	53,54
	*X-4031-109-1	CABINET ASSY (KP-46V15(US/CND))	53,54
	*X-4031-118-1	CABINET ASSY (KP-53V16)	52,55,56
	*X-4030-636-1	CABINET ASSY (KP-53V15)	52,55,56
52	4-838-438-00	LATCH (KP-53V15/53V16)	
53	4-040-755-01	CASTER(DIA. 30)(KP-46V15(US/CND)/46V16)	
54	4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	
55	4-030-850-01	SOCKET, CASTER (KP-53V15/53V16/61V15(US/CND))	
56	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD (KP-61V15(US/CND))	
57	4-040-508-01	CASTER (KP-61V15(US/CND))	
	4-032-343-11	CASTER (KP-53V15/53V16)	
58	4-037-349-01	MIRROR (53), REFLECTION (KP-53V15/53V16/61V15(US/CND))	
	4-037-534-01	MIRROR (46), REFLECTION (KP-46V15(US/CND)/46V16)	
59	4-036-462-01	COVER (46"), MIRROR (KP-46V15(US/CND)/46V16)	
	4-036-474-01	COVER (53"), MIRROR (KP-53V15/53V16/61V15(US/CND))	
60	X-4030-549-1	COVER ASSY, BACK	

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite Ne les remplacer que par une piece portant le numero specifie

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

7-3. CHASSIS

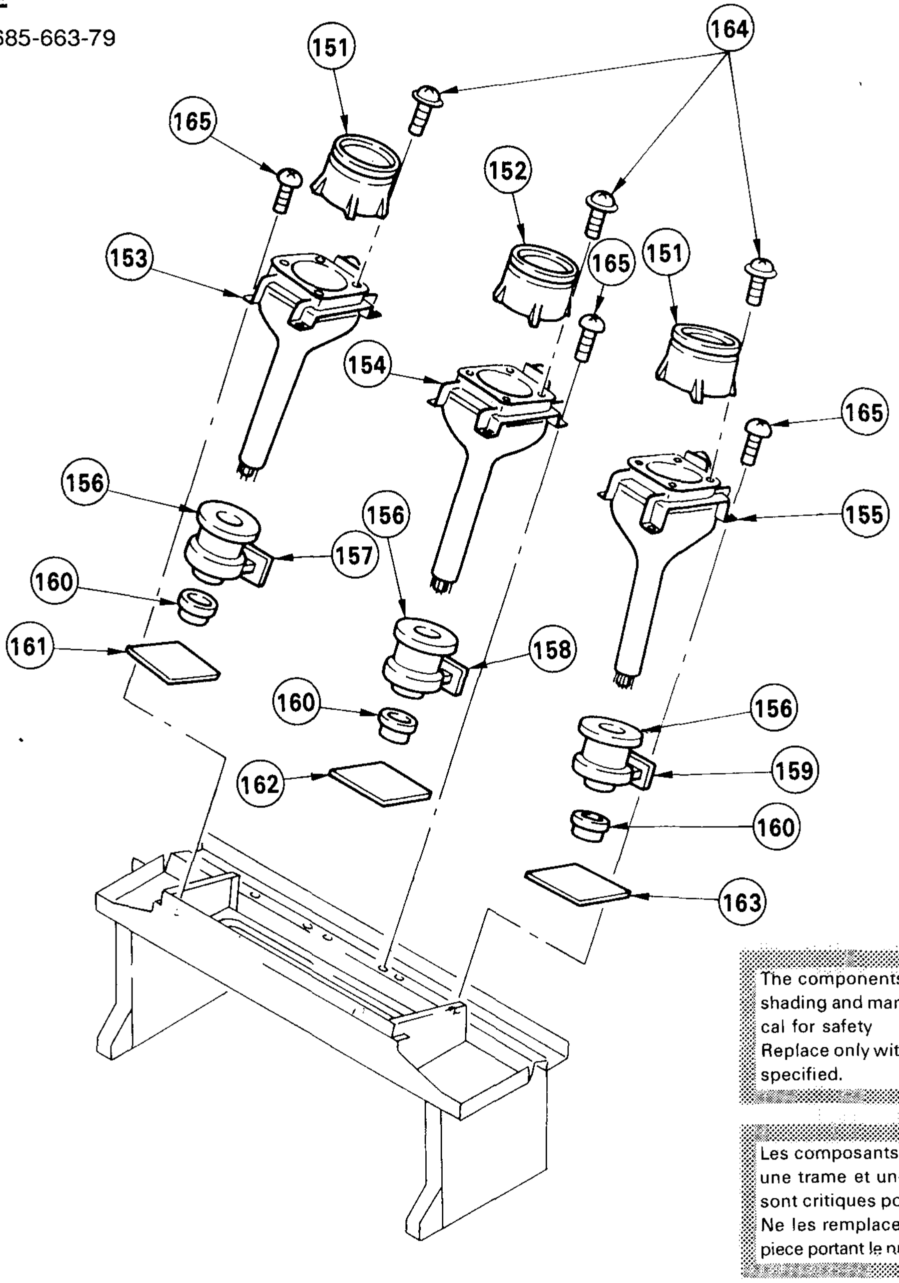
●: BVTP3 × 12 7-685-648-79
□: BVTP4 × 12 7-685-661-79
■. BVTP4 × 16 7-685-663-79
○· PSW4 × 14 7-682-663-09


□ KP-46V15(US/CND)/46V16/53V15/53V16
114
119
116
113
133
115
117
118
134
131
121
122
123
120
124
125
106
105
110
111
112
113
109
108
107
130
129
102
101
127
128
103
104
132
126
□ KP-46V15 (US/CND)/46V16/53V15/53V16
■ KP-61V15 (US/CND)

REF.NO.	PART NO.	DESCRIPTION	REMARK
101	*1-644-278-11	DS BOARD	
102	*A-1346-117-A	D BOARD, COMPLETE	
103	*4-393-401-11	SPRING, TRANSISTOR	
104	⚠ 1-241-744-11	RESISTOR ASSY (HIGH-VOLTAGE)	
105	*A-1394-421-A	S BOARD, COMPLETE	
106	*A-1297-078-A	A BOARD, COMPLETE (KP-46V15(US/CND)/46V16/61V15(US/CND))	107~112
	*A-1297-108-A	A BOARD, COMPLETE (KP-53V15/53V16)	107~112
107	*A-1346-138-A	E1 BOARD, COMPLETE	
108	*A-1346-137-A	E2 BOARD, COMPLETE	
109	*A-1306-436-A	M BOARD, COMPLETE	
110	*A-1195-066-A	P1 BOARD, COMPLETE	
111	*A-1394-444-A	X2 BOARD, COMPLETE	
112	*A-1394-443-A	Y2 BOARD, COMPLETE	
113	⚠ 1-693-102-22	TUNER (BTF-XA401)	
114	*1-557-056-31	CABLE, P-P	
115	*1-555-400-00	CABLE, PIN	
116	4-036-137-03	PANEL, SUB CONNECTOR	
117	*A-1394-420-A	U BOARD, COMPLETE	
118	*A-1394-432-A	UT BOARD, COMPLETE	
119	1-417-178-11	SELECTOR, ANTENNA (AS-2)	
120	*A-1342-214-A	V BOARD, COMPLETE	
121	4-373-137-01	CAP (Z), RUBBER	
122	⚠ 1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
123	4-034-482-01	COVER, FBT	
124	*A-1390-351-A	N BOARD, COMPLETE	
125	⚠ 1-453-121-11	TRANSFORMER ASSY, FLYBACK (NX-2630B4)	
126	*A-1316-149-A	G BOARD, COMPLETE	
127	*3-670-570-21	SPACER, SUPPORT	
128	4-866-147-00	WASHER	
129	* 4-386-328-11	GROMMET, AC CORD	
130	⚠ 1-696-002-12	CORD, POWER(WITH NOISE FILTER)	
131	1-574-590-31	LEAD ASSY, HIGH-VOLTAGE	
132	4-039-112-01	WASHER, WAVE	
133	*A-1195-068-A	P3 BOARD, COMPLETE	
134	4-036-138-01	PANEL, MAIN CONNECTOR	

7-4. PICTURE TUBE

■ : BVTP4 × 16 7-685-663-79



The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
151	4-034-057-01	LENS (LINNIT) (KP-46V15(US/CND)/46V16/53V15/53V16)	
	4-040-131-01	LENS (LINNIT POINT 6)(KP-61V15(US/CND))	
152	4-034-057-11	LENS (LINNIT) (KP-46V15(US/CND)/46V16/53V15/53V16)	
	4-040-131-11	LENS (LINNIT POINT 6)(KP-61V15(US/CND))	
153	⚠ 8-736-633-05	PICTURE TUBE 07MK(R) (SD-249) (KP-46V15(US/CND)/46V16/53V15/53V16)	
	⚠ 8-736-641-05	PICTURE TUBE 07MK2(R) (SD-249) (KP-61V15(US/CND))	
154	⚠ 8-736-631-05	PICTURE TUBE 07MK(G) (SD-249) (KP-46V15(US/CND)/46V16/53V15/53V16)	
	⚠ 8-736-634-05	PICTURE TUBE 07MK3(G) (SD-249) (KP-61V15(US/CND))	
155	⚠ 8-736-632-05	PICTURE TUBE 07MK(B) (SD-249) (KP-46V15(US/CND)/46V16/53V15/53V16)	
	⚠ 8-736-640-05	PICTURE TUBE 07MK2(B) (SD-249) (KP-61V15(US/CND))	
156	⚠ 1-451-396-21	DEFLECTION YOKE (Y93KPA)	
157	*A-1390-340-A	ZR BOARD, COMPLETE	
158	*A-1390-346-A	ZG BOARD, COMPLETE	
159	*A-1390-347-A	ZB BOARD, COMPLETE	
160	⚠ 1-452-443-13	NECK ASSY, PICTURE TUBE (NA367)	
161	*A-1331-259-A	CR BOARD, COMPLETE	
162	*A-1331-260-A	CG BOARD, COMPLETE	
163	*A-1331-261-A	CB BOARD, COMPLETE	
164	3-701-810-91	SCREW, TERMINAL	
165	7-685-661-79	SCREW (DIA. 4X12), TAPPING	

P3

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation Should replacement be required, replace only with the value originally used

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1195-068-A	P3 BOARD, COMPLETE ******************	
		<CAPACITOR>	
C2001	1-124-910-11	ELECT 47MF 20% 50V	
C2002	1-124-910-11	ELECT 47MF 20% 50V	
C2003	1-124-119-00	ELECT 330MF 20% 16V	
C2004	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C2005	1-124-261-00	ELECT 10MF 20% 50V	
C2006	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C2007	1-126-157-11	ELECT 10MF 20% 16V	
C2008	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C2009	1-163-157-00	FILM 0.022MF 5% 50V	
C2010	1-164-161-11	CERAMIC CHIP 0.0022MF 50V	
C2011	1-126-157-11	ELECT 10MF 20% 16V	
C2013	1-126-301-11	ELECT 1MF 20% 50V	
C2014	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	
C2015	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C2016	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C2017	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C2018	1-124-465-00	ELECT 0.47MF 20% 50V	
C2019	1-126-103-11	ELECT 470MF 20% 16V	
C2020	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C2021	1-126-157-11	ELECT 10MF 20% 16V	
C2022	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C2023	1-163-119-00	CERAMIC CHIP 120PF 5% 50V	
C2024	1-124-465-00	ELECT 0.47MF 20% 50V	
C2025	1-126-157-11	ELECT 10MF 20% 16V	
C2027	1-163-103-00	CERAMIC CHIP 27PF 5% 50V	
C2028	1-163-107-00	CERAMIC CHIP 39PF 5% 50V	
C2064	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	
C2065	1-126-320-11	ELECT 10MF 20% 16V	
C2066	1-126-157-11	ELECT 10MF 20% 16V	
C2067	1-126-157-11	ELECT 10MF 20% 16V	
C2068	1-124-916-11	ELECT 22MF 20% 50V	
C2075	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
		<COMPOSITION CIRCUIT BLOCK>	
CP2001	1-236-472-11	NETWORK, RES, THICK FILM	
		<DIODE>	
D2006	8-719-105-45	DIODE RD3.3M-B1	
D2007	8-719-911-19	DIODE 1SS119	
		<IC>	
IC2001	8-759-231-58	IC TA7812S	
IC2002	8-759-700-48	IC NJM2903S	
IC2003	8-759-805-37	IC L78LR05D-MA	
IC2004	8-759-066-51	IC MB88733-143	
IC2005	8-759-803-25	IC CXK1006L	
		<JACK>	
J2001	*1-573-962-11	CONNECTOR (MALE) 50P	
		<COIL>	
L2002	1-410-663-31	INDUCTOR 10UH	
L2003	1-410-667-31	INDUCTOR 22UH	
		<CONNECTOR>	
P3-39	*1-564-521-11	PLUG, CONNECTOR 6P	
P3-41	*1-564-519-11	PLUG, CONNECTOR 4P	
		<TRANSISTOR>	
Q2001	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2002	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q2003	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q2004	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2005	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q2006	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q2007	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2008	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	
Q2009	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2010	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q2011	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2012	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2030	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2031	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2036	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q2037	8-729-422-27	TRANSISTOR 2SD601A-Q	
		<RESISTOR>	
R2002	*1-216-357-91	METAL OXIDE 4.7 5% 1W	F
R2003	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R2004	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2006	1-216-689-11	METAL GLAZE 39K 5% 1/10W	
R2007	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R2008	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2009	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2010	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R2011	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R2012	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2013	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R2014	1-216-089-00	METAL GLAZE 47K 5% 1/10W	

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie

P3 A

REF.NO.	PART NO.	DESCRIPTION				REMARK
R2015	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2016	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2017	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R2018	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2019	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2020	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2021	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R2022	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R2023	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2024	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R2025	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2026	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2027	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2028	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2029	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2030	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R2031	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2032	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2033	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2037	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2038	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2039	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2040	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2041	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2046	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2047	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2048	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2049	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2050	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R2051	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2052	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2053	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2054	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2055	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2056	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2057	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2058	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2059	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2060	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2061	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2062	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2063	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2064	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2093	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2124	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2125	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2127	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R2128	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R2129	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2130	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2131	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2132	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R2147	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2148	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2149	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2150	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2151	1-216-085-00	METAL GLAZE	33K	5%	1/10W	

<VARIABLE RESISTOR>

RV2001 1-238-015-11 RES, ADJ, CARBON 4.7K

REF.NO.	PART NO.	DESCRIPTION	REMARK

<TUNER>

TU2001 8-598-102-22 TUNER (BTF-XA401)

<CRYSTAL>

X2001 1-567-192-11 OSCILLATOR, CERAMIC

****

*A-1297-078-A A BOARD, COMPLETE
****
(KP-46V15(US/CND)/46V16/61V15(US/CND))
*A-1297-108-A A BOARD, COMPLETE (KP-53V15/53V16)
****

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
A-1	*1-564-514-11	PLUG, CONNECTOR 11P	
A-2	*1-564-512-11	PLUG, CONNECTOR 9P	
A-3	*1-564-507-11	PLUG, CONNECTOR 4P	
A-4	*1-564-508-11	PLUG, CONNECTOR 5P	
A-5	*1-564-511-51	PLUG, CONNECTOR 8P	
A-8	*1-564-506-11	PLUG, CONNECTOR 3P	
A-10	*1-564-511-81	PLUG, CONNECTOR 8P	
A-11	*1-564-511-71	PLUG, CONNECTOR 8P	
A-12	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
A-13	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
A-14	*1-564-513-11	PLUG, CONNECTOR 10P	
A-15	*1-564-508-11	PLUG, CONNECTOR 5P	
A-16	*1-564-508-11	PLUG, CONNECTOR 5P	
A-17	*1-564-508-11	PLUG, CONNECTOR 5P	
A-18	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
A-19	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
A-20	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
A-21	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
A-22	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
A-25	*1-564-506-11	PLUG, CONNECTOR 3P	
A-27	*1-573-979-11	CONNECTOR, BOARD TO BOARD 11P	
A-56	*1-564-508-11	PLUG, CONNECTOR 5P	
P3-1	*1-573-960-11	CONNECTOR (FEMALE) 50P	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C201	1-124-910-11	ELECT	47MF	20%	50V	
C202	1-124-903-11	ELECT	1MF	20%	50V	
C203	1-130-495-00	MYLAR	0.1MF	5%	50V	
C204	1-124-477-11	ELECT	47MF	20%	16V	
C205	1-124-557-11	ELECT	1000MF	20%	25V	
C206	1-126-101-11	ELECT	100MF	20%	16V	
C207	1-124-242-00	ELECT	33MF	20%	16V	
C210	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C212	1-126-803-11	ELECT	47MF	20%	16V	
C213	1-126-103-11	ELECT	470MF	20%	16V	
C214	1-126-101-11	ELECT	100MF	20%	16V	
C215	1-126-803-11	ELECT	47MF	20%	50V	
C216	1-126-101-11	ELECT	100MF	20%	16V	
C217	1-126-803-11	ELECT	47MF	20%	25V	
C218	1-126-103-11	ELECT	470MF	20%	16V	
C219	1-124-443-00	ELECT	100MF	20%	10V	
C220	1-126-803-11	ELECT	47MF	20%	25V	
C223	1-126-803-11	ELECT	47MF	20%	25V	
C224	1-124-261-00	ELECT	10MF	20%	50V	
C225	1-124-120-11	ELECT	220MF	20%	16V	
C226	1-124-120-11	ELECT	220MF	20%	16V	
C227	1-124-621-11	ELECT	3300MF	20%	6.3V	

A

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C299	1-126-101-11	ELECT	100MF	20%	16V
C502	1-126-182-11	ELECT	0.47MF	20%	50V
C503	1-130-487-00	MYLAR	0.022MF	5%	50V
C504	1-136-153-00	FILM	0.01MF	5%	50V
C507	1-106-383-00	MYLAR	0.047MF		200V
C508	1-102-973-00	CERAMIC	100PF	5%	50V
C509	1-102-030-00	CERAMIC	330PF	10%	500V
C510 ⚠	1-136-565-11	FILM	0.015MF	3%	1.4KV
C512 ⚠	1-136-598-11	FILM	3MF	5%	200V
C513	1-136-153-00	FILM	0.01MF	5%	50V
C514	1-124-477-11	ELECT	47MF	20%	16V
C522	1-123-024-21	ELECT	33MF		160V
C523	1-106-383-00	MYLAR	0.047MF		200V
C528	1-124-662-11	ELECT	220MF	20%	50V
C534	1-124-011-00	ELECT	220MF	20%	16V
C535	1-124-011-00	ELECT	220MF	20%	16V
C536	1-124-662-11	ELECT	220MF	20%	50V
C537	1-124-662-11	ELECT	220MF	20%	50V
C539	1-124-907-11	ELECT	10MF	20%	50V
C542	1-136-153-00	FILM	0.01MF	5%	50V
C543	1-136-153-00	FILM	0 01MF	5%	50V
C544	1-136-153-00	FILM	0.01MF	5%	50V
C545	1-136-153-00	FILM	0.01MF	5%	50V
C569	1-126-355-11	ELECT	33MF	20%	160V
C1401	1-124-910-11	ELECT	47MF	20%	50V
C1402	1-126-157-11	ELECT	10MF	20%	16V
C1403	1-126-157-11	ELECT	10MF	20%	16V
C1404	1-126-157-11	ELECT	10MF	20%	16V
C1405	1-124-910-11	ELECT	47MF	20%	50V
C1406	1-126-101-11	ELECT	100MF	20%	16V
C1407	1-126-057-11	ELECT	2200MF	20%	50V
C1408	1-136-165-00	FILM	0.1MF	5%	50V
C1409	1-136-165-00	FILM	0.1MF	5%	50V
C1413	1-124-234-00	ELECT	22MF	20%	16V
C1424	1-126-057-11	ELECT	2200MF	20%	50V
C1425	1-126-057-11	ELECT	2200MF	20%	50V
C1426	1-126-157-11	ELECT	10MF	20%	16V
C1429	1-126-101-11	ELECT	100MF	20%	16V
C1430	1-126-101-11	ELECT	100MF	20%	16V
C1431	1-124-916-11	ELECT	22MF	20%	50V
C1435	1-124-916-11	ELECT	22MF	20%	25V
C1440	1-126-336-11	ELECT	220MF	20%	25V
C1601	1-130-483-00	MYLAR	0.01MF	5%	50V
C1603	1-136-153-00	FILM	0.01MF	5%	50V
C1607	1-124-907-11	ELECT	10MF	20%	50V
C1608	1-136-153-00	FILM	0.01MF	5%	50V
C1609	1-136-153-00	FILM	0.01MF	5%	50V
C1610	1-124-916-11	ELECT	22MF	20%	50V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D203	8-719-911-19	DIODE 1SS119	
D204	8-719-911-19	DIODE 1SS119	
D205	8-719-110-36	DIODE RD13ESB2	
D206	8-719-911-19	DIODE 1SS119	
D207	8-719-911-19	DIODE 1SS119	
D208	8-719-911-19	DIODE 1SS119	
D209	8-719-911-19	DIODE 1SS119	
D211	8-719-110-36	DIODE RD13ESB2	
D213	8-719-110-78	DIODE RD33ESB2	
D214	8-719-911-19	DIODE 1SS119	
D215	8-719-911-19	DIODE 1SS119	
D216	8-719-911-19	DIODE 1SS119	
D217	8-719-911-19	DIODE 1SS119	
D219	8-719-911-19	DIODE 1SS119	
D220	8-719-510-48	DIODE D1N20R	
D221	8-719-911-19	DIODE 1SS119	
D222	8-719-911-19	DIODE 1SS119	
D223	8-719-911-19	DIODE 1SS119	
D501	8-719-971-20	DIODE ERC38-06	
D502	8-719-971-20	DIODE ERC38-06	
D503	8-719-300-80	DIODE RU-1C	
D504	8-719-109-88	DIODE RD5.6ESB1	
D505	8-719-900-63	DIODE V09C (KP-46V15(US/CND)46V16/61V15(US/CND))	
D506	8-719-900-63	DIODE V09C (KP-46V15(US/CND)46V16/61V15(US/CND))	
D507	8-719-970-89	DIODE DD50R	
D509	8-719-911-19	DIODE 1SS119	
D510	8-719-109-71	DIODE RD3.9ESB1	
D511	8-719-911-19	DIODE 1SS119	
D512	8-719-911-19	DIODE 1SS119	
D513	8-719-911-19	DIODE 1SS119	
D514	8-719-911-19	DIODE 1SS119	
D515	8-719-911-19	DIODE 1SS119	
D1401	8-719-911-19	DIODE 1SS119	
D1402	8-719-911-19	DIODE 1SS119	
D1403	8-719-911-19	DIODE 1SS119	
D1404	8-719-110-88	DIODE RD39ESB2	
D1405	8-719-110-88	DIODE RD39ESB2	
D1406	8-719-911-19	DIODE 1SS119	
D1407	8-719-110-88	DIODE RD39ESB2	
D1408	8-719-911-19	DIODE 1SS119	
D1409	8-719-110-88	DIODE RD39ESB2	
D1410	8-719-911-19	DIODE 1SS119	
D1607	8-719-911-19	DIODE 1SS119	
D1608	8-719-911-19	DIODE 1SS119	
JW266	8-719-911-19	DIODE 1SS119	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC201	8-749-920-58	IC SI-3090CA	
	4-382-854-11	SCREW (M3X10), P, SW (+); IC201	
IC204	8-759-171-05	IC UPC7805H	
	4-382-854-11	SCREW (M3X10), P, SW (+); IC204	
IC205	8-759-144-82	IC UPC2405HF	
IC206	8-759-231-58	IC TA7812S	
	4-382-854-11	SCREW (M3X10), P, SW (+); IC206	
IC207	8-749-920-58	IC SI-3090CA	
	4-382-854-11	SCREW (M3X10), P, SW (+); IC207	
IC506	8-752-057-18	IC CXA1315P	
IC1401	8-759-168-24	IC TA8216H	
	4-382-854-11	SCREW (M3X10), P, SW (+); IC1401	
IC1601	8-752-058-71	IC CXA1656S	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L201	1-408-429-00	INDUCTOR	470UH	
L205	1-410-645-31	INDUCTOR	100UH	
L206	1-408-416-00	INDUCTOR	39UH	
L212	1-410-312-11	INDUCTOR	0.22UH	
L501 ⚠	1-460-196-11	COIL, HORIZONTAL LINEARITY		
L502	1-459-313-00	COIL WITH CORE (HWC)		
L515	1-410-645-31	INDUCTOR	100UH	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<TRANSISTOR>				
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q202	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q203	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q501	8-729-119-80	TRANSISTOR 2SC2688-LK				
Q502	8-729-014-88	TRANSISTOR 2SC4891-CA				
	4-382-854-11	SCREW (M3X10), P, SW (+); Q502				
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q505	8-729-201-32	TRANSISTOR 2SA1013-O				
Q506	8-729-201-32	TRANSISTOR 2SA1013-O				
Q507	8-729-304-92	TRANSISTOR 2SB649A-C				
Q508	8-729-204-16	TRANSISTOR 2SA1301-O				
	4-382-854-11	SCREW (M3X10), P, SW (+); Q508				
Q509	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q510	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q511	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q512	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1401	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1402	8-729-900-63	TRANSISTOR DTA124ES				
Q1407	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1408	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1601	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1602	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1603	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1604	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1605	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1606	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1620	8-729-119-76	TRANSISTOR 2SA1175-HFE				
		<RESISTOR>				
R203	1-249-425-11	CARBON	4.7K	5%	1/4W	
R204	1-249-441-11	CARBON	100K	5%	1/4W	
R214	1-249-429-11	CARBON	10K	5%	1/4W	
R215	1-249-437-11	CARBON	47K	5%	1/4W	
R216	1-249-377-11	CARBON	0.47	5%	1/4W	F
R219	1-249-426-11	CARBON	5.6K	5%	1/4W	
R221	1-249-409-11	CARBON	220	5%	1/4W	
R222	1-249-436-11	CARBON	39K	5%	1/4W	
R223	1-249-434-11	CARBON	27K	5%	1/4W	
R224	1-249-409-11	CARBON	220	5%	1/4W	
R225	1-249-417-11	CARBON	1K	5%	1/4W	
R226	1-249-419-11	CARBON	1.5K	5%	1/4W	
R229 ⚠	1-215-921-91	METAL OXIDE	4.7K	5%	3W	F
R230 ⚠	1-215-921-91	METAL OXIDE	4.7K	5%	3W	F
R231	1-249-409-11	CARBON	220	5%	1/4W	F
R232 ⚠	1-216-469-91	METAL OXIDE	12	5%	3W	F
R233	1-249-409-11	CARBON	220	5%	1/4W	
R234	1-249-409-11	CARBON	220	5%	1/4W	
R235	1-249-409-11	CARBON	220	5%	1/4W	
R236	1-249-409-11	CARBON	220	5%	1/4W	
R237	1-249-409-11	CARBON	220	5%	1/4W	
R238	1-249-409-11	CARBON	220	5%	1/4W	
R239	1-249-409-11	CARBON	220	5%	1/4W	
R240 ⚠	1-216-469-91	METAL OXIDE	12	5%	3W	F
R241	1-249-401-11	CARBON	47	5%	1/4W	
R242 ⚠	1-216-469-91	METAL OXIDE	12	5%	3W	F
R243 ⚠	1-217-294-11	WIREWOUND	4.7	10%	5W	F
R244 ⚠	1-217-296-11	WIREWOUND	6.8	10%	5W	F
R296	1-249-417-11	CARBON	1K	5%	1/4W	
R501	1-247-895-00	CARBON	470K	5%	1/4W	
R502	1-249-377-11	CARBON	0.47	5%	1/4W	F
R503	1-249-377-11	CARBON	0.47	5%	1/4W	F
R504	1-249-417-11	CARBON	1K	5%	1/4W	
R505	1-249-423-11	CARBON	3.3K	5%	1/4W	
R506 ⚠	1-215-922-91	METAL OXIDE	6.8K	5%	3W	F
R507	1-249-429-11	CARBON	10K	5%	1/4W	F
R508 ⚠	1-216-373-91	METAL OXIDE	2.2	5%	2W	F
R509 ⚠	1-216-478-91	METAL OXIDE	390	5%	3W	F
R511	1-249-407-11	CARBON	150	5%	1/4W	
R512	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R513	1-249-417-11	CARBON	1K	5%	1/4W	
R514 ⚠	1-216-441-91	METAL OXIDE	27K	5%	1W	F
R515	1-249-432-11	CARBON	18K	5%	1/4W	F
R516	1-249-417-11	CARBON	1K	5%	1/4W	
R517	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R518	1-249-422-11	CARBON	2.7K	5%	1/4W	F
R519	1-249-417-11	CARBON	1K	5%	1/4W	F
R520 ⚠	1-215-923-91	METAL OXIDE	22K	5%	3W	F
R521 ⚠	1-215-925-91	METAL OXIDE	22K	5%	3W	F
R522	1-249-421-11	CARBON	2.2K	5%	1/4W	
R523	1-249-434-11	CARBON	27K	5%	1/4W	
R524	1-249-434-11	CARBON	27K	5%	1/4W	
R525 ⚠	1-215-922-91	METAL OXIDE	6.8K	5%	3W	F
R526	1-249-417-11	CARBON	1K	5%	1/4W	
R528 ⚠	1-216-447-91	METAL OXIDE	27	5%	2W	F
R529 ⚠	1-216-447-91	METAL OXIDE	27	5%	2W	F
R530	1-249-431-11	CARBON	15K	5%	1/4W	
R531	1-249-431-11	CARBON	15K	5%	1/4W	
R532	1-249-385-11	CARBON	2.2	5%	1/4W	F
R533	1-249-405-11	CARBON	100	5%	1/4W	
R534	1-249-405-11	CARBON	100	5%	1/4W	
R535	1-249-405-11	CARBON	100	5%	1/4W	
R536 ⚠	1-217-316-11	WIREWOUND	330	10%	5W	F
R537 ⚠	1-217-316-11	WIREWOUND	330	10%	5W	F
R550	1-249-385-11	CARBON	2.2	5%	1/4W	F
R558	1-249-385-11	CARBON	2.2	5%	1/4W	F
R559	1-249-409-11	CARBON	220	5%	1/4W	
R560	1-249-409-11	CARBON	220	5%	1/4W	
R563	1-249-429-11	CARBON	10K	5%	1/4W	
R564	1-249-429-11	CARBON	10K	5%	1/4W	
R565	1-249-427-11	CARBON	6.8K	5%	1/4W	
R566	1-249-427-11	CARBON	6.8K	5%	1/4W	
R567	1-249-427-11	CARBON	6.8K	5%	1/4W	
R568	1-249-427-11	CARBON	6.8K	5%	1/4W	
R569	1-249-426-11	CARBON	5.6K	5%	1/4W	
R570	1-249-441-11	CARBON	100K	5%	1/4W	
R571	1-249-429-11	CARBON	10K	5%	1/4W	
R572	1-249-429-11	CARBON	10K	5%	1/4W	
R574	1-249-417-11	CARBON	1K	5%	1/4W	
R579	1-249-417-11	CARBON	1K	5%	1/4W	
R1401	1-215-445-00	METAL	10K	1%	1/4W	
R1402	1-215-445-00	METAL	10K	1%	1/4W	
R1403	1-215-445-00	METAL	10K	1%	1/4W	
R1404	1-215-445-00	METAL	10K	1%	1/4W	
R1405	1-249-385-11	CARBON	2.2	5%	1/4W	
R1406	1-249-385-11	CARBON	2.2	5%	1/4W	
R1409	1-249-433-11	CARBON	22K	5%	1/4W	
R1410	1-249-433-11	CARBON	22K	5%	1/4W	
R1411	1-249-437-11	CARBON	47K	5%	1/4W	
R1427 ⚠	1-215-865-91	METAL OXIDE	220	5%	1W	F
R1428 ⚠	1-215-865-91	METAL OXIDE	220	5%	1W	F
R1431	1-249-405-11	CARBON	100	5%	1/4W	
R1433	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1434	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1439	1-247-883-00	CARBON	150K	5%	1/4W	
R1440	1-249-417-11	CARBON	1K	5%	1/4W	
R1442	1-215-410-00	METAL	360	1%	1/4W	
R1443	1-215-410-00	METAL	360	1%	1/4W	

A **E1**

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1520	1-249-429-11	CARBON	10K	5%	1/4W	
R1601	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1602	1-249-417-11	CARBON	1K	5%	1/4W	
R1603	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1604	1-249-405-11	CARBON	100	5%	1/4W	
R1605	1-249-405-11	CARBON	100	5%	1/4W	
R1606	1-249-405-11	CARBON	100	5%	1/4W	
R1607	1-249-415-11	CARBON	680	5%	1/4W	
R1608	1-249-415-11	CARBON	680	5%	1/4W	
R1609	1-249-415-11	CARBON	680	5%	1/4W	
R1610	1-249-405-11	CARBON	100	5%	1/4W	
R1611	1-249-405-11	CARBON	100	5%	1/4W	
R1612	1-249-405-11	CARBON	100	5%	1/4W	
R1613	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1614	1-249-411-11	CARBON	330	5%	1/4W	
R1622	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1624	1-249-424-11	CARBON	3.9K	5%	1/4W	
R1627	1-249-429-11	CARBON	10K	5%	1/4W	
R1630	1-249-434-11	CARBON	27K	5%	1/4W	
R1631	1-249-433-11	CARBON	22K	5%	1/4W	
R1656	1-249-397-11	CARBON	22	5%	1/4W	
R1657	1-249-397-11	CARBON	22	5%	1/4W	
R1658	1-249-397-11	CARBON	22	5%	1/4W	

<TRANSFORMER>

T501	⚠	1-433-545-11	TRANSFORMER, FERRITE
T502	⚠	1-437-378-11	TRANSFORMER, HORIZONTAL DRIVE

<TUNER>

TU101	⚠	1-693-102-22	TUNER (BTF-XA401)

****

*A-1346-138-A E1 BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C301	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V	
C303	1-126-157-11	ELECT	10MF	20%	16V	
C304	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C305	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C306	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C309	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C310	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C314	1-124-915-11	ELECT	10MF	20%	16V	
C315	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C319	1-126-157-11	ELECT	10MF	20%	16V	
C320	1-124-465-00	ELECT	0.47MF	20%	50V	
C321	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C322	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	
C323	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C324	1-124-234-00	ELECT	22MF	20%	16V	
C325	1-104-563-11	FILM CHIP	0.1MF	5%	16V	
C326	1-104-563-11	FILM CHIP	0.1MF	5%	16V	
C327	1-104-563-11	FILM CHIP	0.1MF	5%	16V	
C328	1-126-157-11	ELECT	10MF	20%	16V	
C329	1-126-157-11	ELECT	10MF	20%	16V	
C330	1-126-157-11	ELECT	10MF	20%	16V	
C331	1-126-301-11	ELECT	1MF	20%	50V	
C332	1-124-584-00	ELECT	100MF	20%	10V	
C333	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	
C334	1-137-491-11	FILM CHIP	0.1MF	5%	25V	

REF.NO.	PART NO.	DESCRIPTION				REMARK
C335	1-136-169-00	FILM	0.22MF	5%	50V	
C336	1-126-301-11	ELECT	1MF	20%	50V	
C337	1-126-301-11	ELECT	1MF	20%	50V	
C338	1-124-584-00	ELECT	100MF	20%	10V	
C339	1-124-791-11	ELECT	1MF	20%	50V	
C340	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C341	1-126-157-11	ELECT	10MF	20%	16V	
C342	1-124-465-00	ELECT	0.47MF	20%	50V	
C343	1-124-589-11	ELECT	47MF	20%	16V	
C344	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C345	1-124-767-00	ELECT	2.2MF	20%	50V	
C346	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C347	1-136-169-00	FILM	0.22MF	5%	50V	
C348	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C349	1-126-301-11	ELECT	1MF	20%	50V	
C350	1-126-301-11	ELECT	1MF	20%	50V	
C351	1-163-002-11	CERAMIC CHIP	270PF	10%	50V	
C352	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V	
C353	1-126-163-11	ELECT	4.7MF	20%	50V	
C354	1-136-169-00	FILM	0.22MF	5%	50V	
C355	1-124-465-00	ELECT	0.47MF	20%	50V	
C356	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C357	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C358	1-124-767-00	ELECT	2.2MF	20%	50V	
C360	1-137-491-11	FILM CHIP	0.1MF	5%	25V	
C361	1-126-301-11	ELECT	1MF	20%	50V	
C362	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C363	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C364	1-126-301-11	ELECT	1MF	20%	50V	
C365	1-164-343-11	CERAMIC CHIP	0.056MF	10%	25V	
C366	1-124-257-00	ELECT	2.2MF	20%	50V	
C367	1-126-157-11	ELECT	10MF	20%	16V	
C368	1-124-234-00	ELECT	22MF	20%	16V	
C369	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C370	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C371	1-124-126-00	ELECT	47MF	20%	16V	
C372	1-124-589-11	ELECT	47MF	20%	16V	
C373	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C378	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C379	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C380	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
C381	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	
C382	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C383	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C384	1-163-095-00	CERAMIC CHIP	12PF	5%	50V	

<DIODE>

D301	8-719-404-46	DIODE MA110	
D302	8-719-404-46	DIODE MA110	
D303	8-719-404-46	DIODE MA110	
D304	8-719-404-46	DIODE MA110	
D305	8-719-404-46	DIODE MA110	
D306	8-719-158-15	DIODE RD5.6SB	
D307	8-719-404-46	DIODE MA110	
D310	8-719-158-15	DIODE RD5.6SB	
D312	8-719-404-46	DIODE MA110	
D313	8-719-404-46	DIODE MA110	
D314	8-719-404-46	DIODE MA110	
D315	8-719-404-46	DIODE MA110	
D316	8-719-404-46	DIODE MA110	
D317	8-719-404-46	DIODE MA110	
D318	8-719-404-46	DIODE MA110	

REF.NO.	PART NO	DESCRIPTION	REMARK
D319	8-719-404-46	DIODE MA110	
D320	8-719-404-46	DIODE MA110	
D321	8-719-400-94	DIODE MA3130	
		<DELAY LINE>	
DL302	1-415-817-11	DELAY LINE	
		<CONNECTOR>	
E1-24	*1-564-523-11	PLUG, CONNECTOR 8P	
E1-25	*1-564-521-11	PLUG, CONNECTOR 6P	
E1-26	*1-564-522-11	PLUG, CONNECTOR 7P	
E1-001	1-573-965-21	PIN, CONNECTOR (PC BOARD) 50P	
		<IC>	
IC301	8-752-058-68	IC CXA1315M	
IC302	8-752-057-68	IC CXA1464AS	
IC303	8-759-106-02	IC UPC4570G2	
		<COIL>	
L301	1-410-064-11	INDUCTOR 2.7MMH	
L307	1-410-944-31	INDUCTOR CHIP 15UH	
L308	1-410-946-31	INDUCTOR CHIP 22UH	
		<TRANSISTOR>	
Q301	8-729-925-79	TRANSISTOR IMX3	
Q302	8-729-925-79	TRANSISTOR IMX3	
Q303	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q304	8-729-907-46	TRANSISTOR IMZ1	
Q305	8-729-925-79	TRANSISTOR IMX3	
Q306	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q307	8-729-903-10	TRANSISTOR FMW1	
Q309	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q310	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q311	8-729-403-27	TRANSISTOR XN4401	
Q312	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q314	8-729-403-27	TRANSISTOR XN4401	
Q315	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q316	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q317	8-729-216-22	TRANSISTOR 2SA1162-G	
Q321	8-729-925-79	TRANSISTOR IMX3	
Q322	8-729-216-22	TRANSISTOR 2SA1162-G	
Q323	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q324	8-729-216-22	TRANSISTOR 2SA1162-G	
Q325	8-729-216-22	TRANSISTOR 2SA1162-G	
Q326	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q327	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q328	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q329	8-729-925-79	TRANSISTOR IMX3	
Q330	8-729-925-79	TRANSISTOR IMX3	
Q333	8-729-925-79	TRANSISTOR IMX3	
Q334	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q335	8-729-907-46	TRANSISTOR IMZ1	
Q340	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q342	8-729-925-79	TRANSISTOR IMX3	
Q344	8-729-216-22	TRANSISTOR 2SA1162-G	
		<RESISTOR>	
R301	1-216-025-00	METAL GLAZE 100 5% 1/10W	

REF.NO	PART NO.	DESCRIPTION	REMARK
R302	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R303	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R304	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R305	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R306	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R307	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R308	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R309	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R310	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R312	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R313	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R314	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R316	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R317	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R320	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R325	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R326	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R331	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R332	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
R333	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R336	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R338	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R339	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R340	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R341	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R343	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R344	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R345	1-216-292-11	METAL GLAZE 8.2M 5% 1/8W	
R346	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R347	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R348	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R349	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R350	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R351	1-216-674-11	METAL CHIP 9.1K 0.50% 1/10W	
R352	1-216-011-00	METAL GLAZE 27 5% 1/10W	
R353	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R354	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R355	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R356	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R357	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R358	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R359	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R360	1-216-119-00	METAL GLAZE 820K 5% 1/10W	
R361	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R362	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R363	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R364	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R365	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R366	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R367	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R368	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R369	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R370	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R371	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R372	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R373	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
R374	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R375	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R376	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R377	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R378	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R379	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R380	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R381	1-216-033-00	METAL GLAZE 220 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R382	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R383	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R384	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R385	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R386	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R387	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R388	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R389	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R390	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R391	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R393	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R394	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R395	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R396	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R397	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R398	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R399	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1301	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1302	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1303	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1305	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1306	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1307	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1308	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1309	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1310	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1311	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1312	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1313	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1314	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1315	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1316	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1317	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1318	1-216-065-00	METAL GLAZE	4 7K	5%	1/10W	
R1319	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1320	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R1321	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1322	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1323	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1324	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1325	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1326	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1327	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1328	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1329	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1330	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1331	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1332	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R1333	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W	
R1334	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1335	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1336	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1337	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1338	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1339	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1340	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1342	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1343	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R1344	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1345	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R1346	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1347	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1348	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1349	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1350	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1351	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1352	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1353	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1354	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1355	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R1356	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1357	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1358	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1362	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R1363	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1364	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1373	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1374	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1379	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1380	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1381	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1382	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1383	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1384	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1385	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1386	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1387	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1388	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1389	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1390	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1391	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1392	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1394	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1395	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1396	1-216-125-00	METAL GLAZE	1.5M	5%	1/10W	
R1399	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R5301	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R5302	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5303	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5304	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R5305	1-216-085-00	METAL GLAZE	33K	5%	1/10W	

<CRYSTAL>

X301	1-567-505-11	OSCILLATOR, CRYSTAL	

****

*A-1346-137-A E2 BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C2302	1-163-009-11	CERAMIC CHIP	0 001MF	10%	50V	
C2303	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2310	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	
C2314	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2315	1-126-157-11	ELECT	10MF	20%	16V	
C2316	1-126-157-11	ELECT	10MF	20%	16V	
C2317	1-126-157-11	ELECT	10MF	20%	16V	
C2318	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2320	1-124-589-11	ELECT	47MF	20%	16V	
C2321	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C2322	1-124-234-00	ELECT	22MF	20%	16V	
C2323	1-124-234-00	ELECT	22MF	20%	16V	
C2324	1-124-234-00	ELECT	22MF	20%	16V	
C2325	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	

REF.NO.	PART NO.	DESCRIPTION			REMARK
C2326	1-124-589-11	ELECT	47MF	20%	16V
C2327	1-164-505-11	CERAMIC CHIP	2 2MF		16V
C2328	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2329	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2331	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2332	1-124-234-00	ELECT	22MF	20%	16V
C2333	1-124-234-00	ELECT	22MF	20%	16V
C2334	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2335	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2336	1-126-163-11	ELECT	4.7MF	20%	16V
C2337	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2338	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C2341	1-135-217-21	TANTAL. CHIP	15MF	20%	6.3V
C2345	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C2346	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2347	1-163-367-11	CERAMIC CHIP	39PF	5%	50V
C2349	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C2350	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2351	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C2352	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C2353	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2354	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C2357	1-126-301-11	ELECT	1MF	20%	50V
C2360	1-163-109-00	CERAMIC CHIP	47PF	5%	50V

<DIODE>

D2306	8-719-404-46	DIODE	MA110
D2307	8-719-946-98	DIODE	FMN1
D2308	8-719-946-98	DIODE	FMN1
D2309	8-719-404-46	DIODE	MA110
D2312	8-719-404-46	DIODE	MA110
D2313	8-719-404-46	DIODE	MA110
D2314	8-713-300-57	DIODE	1T33
D2317	8-719-404-46	DIODE	MA110

<CONNECTOR>

E2-25	*1-564-521-11	PLUG, CONNECTOR 6P
E2-26	*1-564-522-11	PLUG, CONNECTOR 7P
E2-46	*1-564-518-11	PLUG, CONNECTOR 3P
E2-002	1-573-965-21	PIN, CONNECTOR (PC BOARD) 50P

<IC>

IC2301	8-759-066-52	IC	PCA8510T/012-T
IC2303	8-759-925-75	IC	SN74HC05ANS
IC2304	8-752-037-15	IC	CXA1387S
IC2306	8-759-011-65	IC	MC74HC4053F
IC2307	8-752-058-68	IC	CXA1315M

<COIL>

L2304	1-408-414-00	INDUCTOR	27UH

<TRANSISTOR>

Q2301	8-729-903-10	TRANSISTOR	FMW1
Q2303	8-729-403-27	TRANSISTOR	XN4401
Q2304	8-729-925-79	TRANSISTOR	IMX3
Q2305	8-729-903-10	TRANSISTOR	FMW1
Q2306	8-729-403-27	TRANSISTOR	XN4401
Q2307	8-729-403-27	TRANSISTOR	XN4401
Q2308	8-729-403-27	TRANSISTOR	XN4401

REF.NO.	PART NO	DESCRIPTION				REMARK
Q2309	8-729-903-10	TRANSISTOR	FMW1			
Q2310	8-729-403-27	TRANSISTOR	XN4401			
Q2311	8-729-903-10	TRANSISTOR	FMW1			
Q2312	8-729-403-27	TRANSISTOR	XN4401			
Q2313	8-729-903-10	TRANSISTOR	FMW1			
Q2314	8-729-403-27	TRANSISTOR	XN4401			
Q2315	8-729-903-10	TRANSISTOR	FMW1			
Q2317	8-729-216-22	TRANSISTOR	2SA1162-G			
Q2318	8-729-216-22	TRANSISTOR	2SA1162-G			
Q2319	8-729-216-22	TRANSISTOR	2SA1162-G			
Q2320	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q2321	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q2322	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q2324	8-729-216-22	TRANSISTOR	2SA1162-G			
Q2326	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q2327	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q2328	8-729-925-79	TRANSISTOR	IMX3			
Q2329	8-729-925-79	TRANSISTOR	IMX3			
Q2330	8-729-903-10	TRANSISTOR	FMW1			
Q2336	8-729-925-79	TRANSISTOR	IMX3			
Q2337	8-729-925-79	TRANSISTOR	IMX3			
Q2339	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q2340	8-729-422-27	TRANSISTOR	2SD601A-Q			
Q2341	8-729-422-27	TRANSISTOR	2SD601A-Q			

<RESISTOR>

R2302	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2303	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2304	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2305	1-216-033-00	METAL GLAZE	220	5%	1/10W
R2306	1-216-045-00	METAL GLAZE	680	5%	1/10W
R2307	1-216-045-00	METAL GLAZE	680	5%	1/10W
R2308	1-216-045-00	METAL GLAZE	680	5%	1/10W
R2309	1-216-041-00	METAL GLAZE	470	5%	1/10W
R2310	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R2311	1-216-025-00	METAL GLAZE	100	5%	1/10W
R2312	1-216-043-00	METAL GLAZE	560	5%	1/10W
R2313	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R2314	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R2315	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2317	1-216-041-00	METAL GLAZE	470	5%	1/10W
R2318	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R2319	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R2320	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R2321	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R2322	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2323	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R2324	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2325	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2326	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R2327	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R2328	1-216-025-00	METAL GLAZE	100	5%	1/10W
R2329	1-216-025-00	METAL GLAZE	100	5%	1/10W
R2330	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R2331	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R2332	1-216-025-00	METAL GLAZE	100	5%	1/10W
R2333	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R2334	1-216-295-00	METAL GLAZE	0	5%	1/10W
R2335	1-216-295-00	METAL GLAZE	0	5%	1/10W
R2336	1-216-295-00	METAL GLAZE	0	5%	1/10W
R2337	1-216-033-00	METAL GLAZE	220	5%	1/10W
R2338	1-216-081-00	METAL GLAZE	22K	5%	1/10W

E2

REF.NO.	PART NO.	DESCRIPTION				REMARK
R2340	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2341	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2342	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2343	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2344	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2345	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R2346	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2347	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R2348	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R2349	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2350	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2351	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2352	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2353	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2354	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R2355	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R2356	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R2357	1-216-670-11	METAL CHIP	6.2K	0.50%	1/10W	
R2359	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2360	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2361	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2362	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2363	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2364	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2365	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2366	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2367	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2368	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2371	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2374	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2375	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2376	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2377	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2378	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2379	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2380	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2381	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2382	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2384	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2385	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R2386	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2387	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2388	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R2389	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R2390	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2392	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R2393	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R2394	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2395	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R2396	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R2397	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2399	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3301	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3302	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3303	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R3304	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R3306	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3307	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R3308	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3309	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3310	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3311	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3312	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3313	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R3314	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R3315	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3316	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R3318	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R3319	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R3320	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R3321	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R3323	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R3324	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3325	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3328	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3330	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3331	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3332	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3333	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R3334	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R3335	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3336	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R3337	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R3339	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3340	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3341	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R3342	1-216-670-11	METAL CHIP	6.2K	0.50%	1/10W	
R3343	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R3344	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R3347	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R3348	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R3349	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3350	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3351	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3352	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3353	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3354	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3356	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R3357	1-216-654-11	METAL CHIP	1.3K	0.50%	1/10W	
R3358	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R3359	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R3360	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R3361	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3362	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R3364	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3365	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R3367	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R3368	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R3369	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3370	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3371	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3373	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R3374	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3375	1-216-658-11	METAL CHIP	2K	0.50%	1/10W	
R3376	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R3377	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R3378	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R3379	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R3380	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R3381	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3382	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3392	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3401	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R7312	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R7313	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R7314	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X2301	1-577-071-11	VIBRATOR, CERAMIC	

****

*A-1306-436-A M BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C001	1-124-261-00	ELECT	10MF	20%	50V	
C002	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C003	1-136-161-00	FILM	0.047MF	5%	50V	
C004	1-126-301-11	ELECT	1MF	20%	50V	
C005	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C014	1-124-910-11	ELECT	47MF	20%	50V	
C017	1-124-589-11	ELECT	47MF	20%	16V	
C018	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C019	1-164-695-11	CERAMIC CHIP	0.0022MF	5%	50V	
C020	1-163-241-11	CERAMIC CHIP	39PF	5%	50V	
C021	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C029	1-163-115-00	CERAMIC CHIP	82PF	5%	50V	
C030	1-163-115-00	CERAMIC CHIP	82PF	5%	50V	
C034	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C035	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C036	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C041	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C042	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C045	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C047	1-124-261-00	ELECT	10MF	20%	50V	
C048	1-124-261-00	ELECT	10MF	20%	50V	
C049	1-124-261-00	ELECT	10MF	20%	50V	
C055	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C064	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C065	1-124-257-00	ELECT	2.2MF	20%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D001	8-719-404-46	DIODE MA110	
D002	8-719-404-46	DIODE MA110	
D009	8-719-404-46	DIODE MA110	
D010	8-713-300-57	DIODE 1T33	
D011	8-719-404-46	DIODE MA110	
D012	8-719-404-46	DIODE MA110	
D014	8-719-404-46	DIODE MA110	
D015	8-719-404-46	DIODE MA110	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC001	8-759-169-06	IC TMC73C247-10	
IC002	8-759-403-44	IC MN1280-S	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L001	1-408-409-00	INDUCTOR	10UH	
L002	1-410-476-11	INDUCTOR	33UH	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
M-39	*1-564-521-11	PLUG, CONNECTOR 6P	
M-45	*1-564-523-11	PLUG, CONNECTOR 8P	
M-001	1-573-965-21	PIN, CONNECTOR (PC BOARD) 50P	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q001	8-729-216-22	TRANSISTOR 2SA1162-G	
Q009	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q010	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q011	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q012	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q013	8-729-216-22	TRANSISTOR 2SA1162-G	
Q014	8-729-422-27	TRANSISTOR 2SD601A-Q	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R001	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R002	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R003	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R004	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R005	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R006	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R007	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R008	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R009	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R011	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R012	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R013	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R014	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R015	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R016	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R017	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R018	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R019	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R033	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R034	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R035	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R036	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R037	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R038	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R039	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R040	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R041	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R042	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R043	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R044	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R045	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R046	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R047	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R048	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R049	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R050	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R051	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R052	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R053	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R054	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R055	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R056	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R057	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R058	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R059	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R060	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R063	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R064	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R065	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R066	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R067	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R068	1-216-033-00	METAL GLAZE	220	5%	1/10W	

M **P1**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R069	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R070	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R071	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R072	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R073	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R074	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R075	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R076	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R077	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R078	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R079	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R080	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R081	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R082	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R083	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R084	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R085	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R086	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R087	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R088	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R089	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R090	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R091	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R092	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R093	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R094	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R095	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R096	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R097	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R098	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R099	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R100	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R101	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R102	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R103	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R104	1-216-033-00	METAL GLAZE	220	5%	1/10W	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION
X001	1-579-743-11	VIBRATOR, CRYSTAL

****

*A-1195-066-A P1 BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C3001	1-124-589-11	ELECT	47MF	20%	16V	
C3002	1-164-346-11	CERAMIC CHIP	1MF		16V	
C3003	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3004	1-163-119-00	CERAMIC CHIP	120PF	5%	50V	
C3005	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C3006	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3007	1-164-005-11	CERAMIC CHIP	0.47MF		25V	
C3008	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3009	1-124-925-11	ELECT	2.2MF	20%	50V	
C3010	1-163-145-00	CERAMIC CHIP	0.0015MF	5%	50V	
C3011	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V	
C3012	1-164-336-11	CERAMIC CHIP	0.33MF		25V	
C3013	1-164-222-11	CERAMIC CHIP	0.22MF		25V	
C3014	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3015	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3016	1-163-107-00	CERAMIC CHIP	39PF	5%	50V	
C3017	1-130-495-00	MYLAR	0.1MF	5%	50V	
C3018	1-163-115-00	CERAMIC CHIP	82PF	5%	50V	
C3019	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3020	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	
C3021	1-163-115-00	CERAMIC CHIP	82PF	5%	50V	
C3022	1-126-301-11	ELECT	1MF	20%	50V	
C3023	1-124-589-11	ELECT	47MF	20%	16V	
C3024	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V	
C3025	1-164-343-11	CERAMIC CHIP	0.056MF	10%	25V	
C3026	1-126-163-11	ELECT	4.7MF	20%	50V	
C3027	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V	
C3028	1-124-589-11	ELECT	47MF	20%	16V	
C3029	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C3030	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	
C3031	1-126-177-11	ELECT	100MF	20%	6.3V	
C3032	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3033	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3034	1-164-336-11	CERAMIC CHIP	0.33MF		25V	
C3035	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C3036	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3037	1-124-589-11	ELECT	47MF	20%	16V	
C3038	1-136-287-11	FILM	0.0047MF	5%	50V	
C3039	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3040	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3042	1-164-346-11	CERAMIC CHIP	1MF		16V	
C3043	1-124-465-00	ELECT	0.47MF	20%	50V	
C3044	1-126-301-11	ELECT	1MF	20%	50V	
C3045	1-124-589-11	ELECT	47MF	20%	16V	
C3046	1-126-301-11	ELECT	1MF	20%	50V	
C3047	1-126-301-11	ELECT	1MF	20%	50V	
C3048	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C3051	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C3052	1-126-177-11	ELECT	100MF	20%	6.3V	
C3053	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3054	1-126-177-11	ELECT	100MF	20%	6.3V	
C3055	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C3057	1-124-589-11	ELECT	47MF	20%	16V	
C3058	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C3059	1-164-222-11	CERAMIC CHIP	0.22MF		25V	
C3060	1-124-589-11	ELECT	47MF	20%	16V	
C3064	1-163-123-00	CERAMIC CHIP	180PF	5%	50V	
C3065	1-124-589-11	ELECT	47MF	20%	16V	
C3066	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3067	1-124-589-11	ELECT	47MF	20%	16V	
C3069	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3070	1-126-177-11	ELECT	100MF	20%	6.3V	
C3071	1-124-589-11	ELECT	47MF	20%	16V	
C3072	1-124-589-11	ELECT	47MF	20%	16V	
C3073	1-124-589-11	ELECT	47MF	20%	16V	
C3074	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C3076	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3077	1-164-005-11	CERAMIC CHIP	0.47MF		25V	
C3081	1-163-095-00	CERAMIC CHIP	12PF	5%	50V	
C3100	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3101	1-163-115-00	CERAMIC CHIP	82PF	5%	50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
CN151	1-573-965-21	PIN, CONNECTOR (PC BOARD) 50P

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D3003	8-719-158-15	DIODE RD5.6SB

REF.NO.	PART NO.	DESCRIPTION	REMARK
D3004	8-719-404-46	DIODE MA110	
D3009	8-719-404-46	DIODE MA110	
		<IC>	
IC3001	8-759-046-25	IC TDA3769	
IC3002	8-759-009-46	IC MC14528BF	
IC3003	8-759-513-48	IC TDA2595/V9	
IC3004	8-759-088-90	IC SDA9187X	
IC3005	8-759-088-91	IC SDA9188X	
IC3006	8-759-112-06	IC UPC78N05H	
IC3007	8-759-046-27	IC SDA9086-3	
IC3008	8-759-112-06	IC UPC78N05H	
		<COIL>	
L3001	1-410-476-11	INDUCTOR 33UH	
L3002	1-408-424-00	INDUCTOR 180UH	
L3003	1-408-424-00	INDUCTOR 180UH	
L3004	1-410-470-11	INDUCTOR 10UH	
L3005	1-410-472-41	INDUCTOR 15UH	
L3006	1-412-788-41	INDUCTOR 10UH	
L3007	1-410-472-41	INDUCTOR 15UH	
L3008	1-410-472-41	INDUCTOR 15UH	
L3009	1-410-472-41	INDUCTOR 15UH	
L3010	1-410-466-41	INDUCTOR 4.7UH	
L3011	1-410-470-11	INDUCTOR 10UH	
L3012	1-410-676-31	INDUCTOR 150UH	
L3013	1-412-911-11	INDUCTOR, FERRITE BEAD	
L3014	1-412-911-11	INDUCTOR, FERRITE BEAD	
L3015	1-412-911-11	INDUCTOR, FERRITE BEAD	
L3100	1-412-799-41	INDUCTOR 82UH	
		<TRANSISTOR>	
Q3003	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3004	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q3006	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q3007	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3008	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q3009	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3010	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q3011	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3012	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q3013	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q3014	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q3100	8-729-216-22	TRANSISTOR 2SA1162-G	
		<RESISTOR>	
JR3	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R3001	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R3002	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R3003	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R3004	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R3005	1-216-689-11	METAL GLAZE 39K 5% 1/10W	
R3006	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R3007	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R3008	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R3009	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R3010	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3011	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R3012	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R3013	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R3014	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R3015	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3017	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R3018	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R3019	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R3020	1-216-099-00	METAL GLAZE 120K 5% 1/10W	
R3021	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R3023	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R3025	1-216-015-00	METAL GLAZE 39 5% 1/10W	
R3026	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R3027	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R3028	1-216-027-00	METAL GLAZE 120 5% 1/10W	
R3030	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R3031	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R3032	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R3033	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R3034	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R3035	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R3036	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R3037	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R3038	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3039	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R3040	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R3041	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R3042	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R3043	1-216-099-00	METAL GLAZE 120K 5% 1/10W	
R3044	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R3045	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R3050	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R3052	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R3053	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R3055	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R3056	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R3057	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R3058	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3059	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R3060	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R3061	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3062	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3063	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R3064	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R3065	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R3066	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R3067	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R3069	1-216-689-11	METAL GLAZE 39K 5% 1/10W	
R3071	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3073	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3074	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R3075	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3076	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R3077	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R3078	1-216-044-00	METAL GLAZE 620 5% 1/10W	
R3079	1-216-040-00	METAL GLAZE 430 5% 1/10W	
R3082	1-216-029-00	METAL GLAZE 150 5% 1/10W	
R3084	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R3085	1-216-119-00	METAL GLAZE 820K 5% 1/10W	
R3086	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R3087	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R3088	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R3089	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R3090	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R3091	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R3092	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	

P1 **X2**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R3098	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R3099	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R3100	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R3101	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R3102	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R3103	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3104	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV3001	1-241-630-11	RES, ADJ, CARBON 10K	
RV3002	1-238-019-11	RES, ADJ, CARBON 47K	
RV3003	1-241-630-11	RES, ADJ, CARBON 10K	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X3001	1-567-505-11	OSCILLATOR, CRYSTAL	

****

*A-1394-444-A X2 BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C2501	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V	
C2502	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V	
C2503	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C2504	1-126-163-11	ELECT	4.7MF	20%	50V	
C2505	1-163-020-00	CERAMIC CHIP	0 0082MF	10%	50V	
C2506	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V	
C2507	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C2508	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V	
C2509	1-163-020-00	CERAMIC CHIP	0.0082MF	10%	50V	
C2510	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
C2511	1-164-004-11	CERAMIC CHIP	0 1MF	10%	25V	
C2512	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2513	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2514	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2515	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2516	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2517	1-126-157-11	ELECT	10MF	20%	16V	
C2518	1-126-163-11	ELECT	4.7MF	20%	50V	
C2519	1-126-301-11	ELECT	1MF	20%	50V	
C2520	1-126-163-11	ELECT	4.7MF	20%	50V	
C2521	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C2522	1-124-252-00	ELECT	0.33MF	20%	50V	
C2523	1-126-163-11	ELECT	4.7MF	20%	50V	
C2524	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2525	1-126-163-11	ELECT	4.7MF	20%	50V	
C2526	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2527	1-126-157-11	ELECT	10MF	20%	16V	
C2528	1-124-465-00	ELECT	0.47MF	20%	50V	
C2529	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
C2530	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V	
C2531	1-126-301-11	ELECT	1MF	20%	50V	
C2532	1-126-301-11	ELECT	1MF	20%	50V	
C2533	1-124-261-00	ELECT	10MF	20%	50V	
C2534	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	
C2535	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2536	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2537	1-126-163-11	ELECT	4.7MF	20%	50V	
C2538	1-126-163-11	ELECT	4.7MF	20%	50V	
C2539	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2540	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2541	1-163-139-00	CERAMIC CHIP	820PF	5%	50V	
C2542	1-124-478-11	ELECT	100MF	20%	25V	
C2543	1-124-252-00	ELECT	0.33MF	20%	50V	
C2544	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C2545	1-126-301-11	ELECT	1MF	20%	50V	
C2546	1-126-163-11	ELECT	4.7MF	20%	50V	
C2547	1-126-163-11	ELECT	4.7MF	20%	25V	
C2548	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C2549	1-126-163-11	ELECT	4.7MF	20%	50V	
C2550	1-126-163-11	ELECT	4.7MF	20%	25V	
C2551	1-126-301-11	ELECT	1MF	20%	50V	
C2552	1-126-163-11	ELECT	4.7MF	20%	50V	
C2553	1-126-301-11	ELECT	1MF	20%	50V	
C2554	1-124-234-00	ELECT	22MF	20%	16V	
C2555	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2556	1-124-257-00	ELECT	2.2MF	20%	50V	
C2557	1-124-234-00	ELECT	22MF	20%	16V	
C2558	1-126-301-11	ELECT	1MF	20%	50V	
C2559	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2560	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C2561	1-126-301-11	ELECT	1MF	20%	50V	
C2562	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	
C2563	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	
C2564	1-126-301-11	ELECT	1MF	20%	50V	
C2565	1-126-163-11	ELECT	4.7MF	20%	50V	
C2566	1-126-163-11	ELECT	4.7MF	20%	50V	
C2567	1-126-163-11	ELECT	4.7MF	20%	50V	
C2568	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	
C2569	1-163-257-11	CERAMIC CHIP	180PF	5%	50V	
C2570	1-124-234-00	ELECT	22MF	20%	16V	
C2571	1-126-301-11	ELECT	1MF	20%	50V	
C2572	1-126-163-11	ELECT	4.7MF	20%	50V	
C2573	1-124-234-00	ELECT	22MF	20%	16V	
C2574	1-126-301-11	ELECT	1MF	20%	50V	
C2575	1-126-301-11	ELECT	1MF	20%	50V	
C2576	1-126-301-11	ELECT	1MF	20%	50V	
C2577	1-126-163-11	ELECT	4.7MF	20%	50V	
C2578	1-126-163-11	ELECT	4.7MF	20%	50V	
C2579	1-126-103-11	ELECT	470MF	20%	16V	
C2580	1-124-478-11	ELECT	100MF	20%	25V	
C2581	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C2582	1-124-477-11	ELECT	47MF	20%	25V	
C2583	1-126-163-11	ELECT	4.7MF	20%	50V	
C2584	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C2585	1-126-163-11	ELECT	4.7MF	20%	50V	
C2586	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C2587	1-126-163-11	ELECT	4.7MF	20%	50V	
C2588	1-126-163-11	ELECT	4.7MF	20%	50V	
C2589	1-126-163-11	ELECT	4.7MF	20%	50V	
C2590	1-126-163-11	ELECT	4.7MF	20%	50V	
C2591	1-124-478-11	ELECT	100MF	20%	25V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D2501	8-719-104-34	DIODE 1S2836	
D2502	8-719-106-88	DIODE RD15M-B1	
D2503	8-719-106-88	DIODE RD15M-B1	
D2504	8-719-106-88	DIODE RD15M-B1	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC2501	8-759-031-31	IC MC33174M	
IC2502	8-752-050-75	IC CXA1373Q	

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC2503	8-759-604-70	IC M51523AL	
IC2504	8-759-031-31	IC MC33174M	
IC2505	8-759-604-70	IC M51523AL	
IC2506	8-759-106-22	IC UPD4052BG	
IC2507	8-759-038-68	IC MC33172ML	
IC2508	8-759-038-68	IC MC33172ML	
		<JACK>	
J2501	1-573-966-11	PIN, CONNECTOR (PC BOARD) 36P	
		<TRANSISTOR>	
Q2501	8-729-230-49	TRANSISTOR 2SC2712-YG	
		<RESISTOR>	
R2501	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R2502	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R2503	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R2504	1-216-109-00	METAL GLAZE 330K 5% 1/10W	
R2505	1-216-109-00	METAL GLAZE 330K 5% 1/10W	
R2506	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R2507	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R2508	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R2509	1-216-130-11	METAL GLAZE 2.4M 5% 1/10W	
R2510	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R2511	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R2512	1-216-103-00	METAL GLAZE 180K 5% 1/10W	
R2513	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R2514	1-216-103-00	METAL GLAZE 180K 5% 1/10W	
R2515	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2516	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R2517	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2518	1-216-072-00	METAL GLAZE 9.1K 5% 1/10W	
R2519	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2520	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2521	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2522	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R2523	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R2524	1-216-129-00	METAL GLAZE 2.2M 5% 1/10W	
R2526	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2527	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2528	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2529	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2530	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2531	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2532	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2533	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2534	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2535	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2536	1-216-129-00	METAL GLAZE 2.2M 5% 1/10W	
R2537	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R2539	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R2540	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R2541	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R2542	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2543	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2544	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2545	1-216-048-00	METAL GLAZE 910 5% 1/10W	
R2546	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2547	1-216-133-00	METAL GLAZE 3.3M 5% 1/10W	
R2548	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2549	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R2550	1-216-088-00	METAL GLAZE 43K 5% 1/10W	
R2551	1-216-088-00	METAL GLAZE 43K 5% 1/10W	
R2552	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2553	1-216-078-00	METAL GLAZE 16K 5% 1/10W	
R2554	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R2555	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2556	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2557	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R2558	1-216-088-00	METAL GLAZE 43K 5% 1/10W	
R2559	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R2560	1-216-103-00	METAL GLAZE 180K 5% 1/10W	
R2561	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R2562	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2563	1-216-088-00	METAL GLAZE 43K 5% 1/10W	
R2564	1-216-088-00	METAL GLAZE 43K 5% 1/10W	
R2565	1-216-103-00	METAL GLAZE 180K 5% 1/10W	
R2566	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2567	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2568	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2569	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R2570	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R2571	1-216-078-00	METAL GLAZE 16K 5% 1/10W	
R2572	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2573	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R2574	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R2575	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2576	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2577	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2578	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2579	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2580	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2581	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2582	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R2583	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R2584	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2585	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2586	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R2587	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R2588	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R2589	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R2590	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R2591	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2592	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2593	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R2594	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2595	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2596	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2597	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2598	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2599	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2600	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2601	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2602	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2604	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R2605	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2606	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R2610	1-216-125-00	METAL GLAZE 1.5M 5% 1/10W	
R2611	1-216-125-00	METAL GLAZE 1.5M 5% 1/10W	
R2612	1-216-125-00	METAL GLAZE 1.5M 5% 1/10W	
R2613	1-216-125-00	METAL GLAZE 1.5M 5% 1/10W	
R2614	1-216-125-00	METAL GLAZE 1.5M 5% 1/10W	
R2615	1-216-125-00	METAL GLAZE 1.5M 5% 1/10W	
R2616	1-216-125-00	METAL GLAZE 1.5M 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION			REMARK
R2617	1-216-125-00	METAL GLAZE	1.5M	5%	1/10W
R2618	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R2619	1-216-049-00	METAL GLAZE	1K	5%	1/10W

****

*A-1394-443-A Y2 BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C401	1-124-234-00	ELECT	22MF	20%	16V
C424	1-126-301-11	ELECT	1MF	20%	50V
C425	1-126-301-11	ELECT	1MF	20%	50V
C426	1-126-301-11	ELECT	1MF	20%	50V
C427	1-124-465-00	ELECT	0.47MF	20%	50V
C428	1-126-163-11	ELECT	4.7MF	20%	50V
C429	1-124-478-11	ELECT	100MF	20%	25V
C430	1-124-261-00	ELECT	10MF	20%	50V
C431	1-126-301-11	ELECT	1MF	20%	50V
C432	1-126-301-11	ELECT	1MF	20%	50V
C433	1-131-347-00	TANTALUM	1MF	20%	16V
C434	1-126-301-11	ELECT	1MF	20%	50V
C435	1-130-309-00	FILM	0.033MF	5%	100V
C436	1-126-301-11	ELECT	1MF	20%	50V
C437	1-130-487-00	MYLAR	0.022MF	5%	50V
C438	1-126-301-11	ELECT	1MF	20%	50V
C439	1-124-034-51	ELECT	33MF	20%	16V
C440	1-126-301-11	ELECT	1MF	20%	50V
C441	1-126-301-11	ELECT	1MF	20%	50V
C442	1-124-261-00	ELECT	10MF	20%	50V
C443	1-124-589-11	ELECT	47MF	20%	16V
C446	1-124-234-00	ELECT	22MF	20%	16V
C447	1-126-301-11	ELECT	1MF	20%	50V
C448	1-136-170-00	FILM	0.27MF	5%	50V
C449	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C450	1-130-475-00	MYLAR	0.0022MF	5%	50V
C451	1-124-261-00	ELECT	10MF	20%	50V
C452	1-124-261-00	ELECT	10MF	20%	50V
C453	1-130-475-00	MYLAR	0.0022MF	5%	50V
C454	1-131-368-00	TANTALUM	3.3MF	10%	16V
C455	1-131-347-00	TANTALUM	1MF	20%	16V
C456	1-136-171-00	FILM	0.33MF	5%	50V
C457	1-136-175-00	FILM	0.68MF	5%	50V
C458	1-126-101-11	ELECT	100MF	20%	16V
C459	1-126-101-11	ELECT	100MF	20%	16V
C460	1-126-101-11	ELECT	100MF	20%	16V
C461	1-124-499-11	ELECT	1MF	20%	50V
C462	1-124-499-11	ELECT	1MF	20%	50V
C465	1-130-485-00	MYLAR	0.015MF	5%	50V
C466	1-130-485-00	MYLAR	0.015MF	5%	50V
C467	1-136-169-00	FILM	0.22MF	5%	50V
C468	1-136-169-00	FILM	0.22MF	5%	50V
C469	1-126-157-11	ELECT	10MF	20%	16V
C470	1-126-157-11	ELECT	10MF	20%	16V
C471	1-124-589-11	ELECT	47MF	20%	16V
C472	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C473	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C474	1-124-234-00	ELECT	22MF	20%	16V
C475	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C476	1-124-234-00	ELECT	22MF	20%	16V
C477	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C478	1-124-478-11	ELECT	100MF	20%	25V
C479	1-126-163-11	ELECT	4.7MF	20%	50V
C480	1-124-768-11	ELECT	4.7MF	20%	50V
C481	1-124-768-11	ELECT	4.7MF	20%	50V
C482	1-126-163-11	ELECT	4.7MF	20%	50V
C483	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C484	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C485	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C487	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C488	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D405	8-719-107-13	DIODE RD18M-B1
D406	8-719-107-13	DIODE RD18M-B1
D407	8-719-107-13	DIODE RD18M-B1
D408	8-719-105-83	DIODE RD5.1M-B3
D409	8-719-981-50	DIODE RB100A
D410	8-719-981-50	DIODE RB100A
D413	8-719-158-19	DIODE RD6.2SB
D414	8-719-158-55	DIODE RD15SB
D415	8-719-158-55	DIODE RD15SB

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC403	8-759-996-43	IC RC4558PS
IC404	8-759-067-24	IC 24C04AI/P
IC406	8-752-037-24	IC CXA1264AS
IC407	8-759-245-75	IC TA8184P
IC408	8-752-057-18	IC CXA1315P

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q404	8-729-216-22	TRANSISTOR 2SA1162-G
Q405	8-729-216-22	TRANSISTOR 2SA1162-G
Q409	8-729-422-27	TRANSISTOR 2SD601A-Q
Q410	8-729-422-27	TRANSISTOR 2SD601A-Q

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
R447	1-216-033-00	METAL GLAZE	220	5%	1/10W
R453	1-216-033-00	METAL GLAZE	220	5%	1/10W
R464	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R465	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R466	1-216-025-00	METAL GLAZE	100	5%	1/10W
R467	1-216-033-00	METAL GLAZE	220	5%	1/10W
R468	1-216-033-00	METAL GLAZE	220	5%	1/10W
R469	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R470	1-216-033-00	METAL GLAZE	220	5%	1/10W
R471	1-216-033-00	METAL GLAZE	220	5%	1/10W
R472	1-216-686-11	METAL CHIP	30K	0.50%	1/10W
R473	1-216-295-00	METAL GLAZE	0	5%	1/10W
R474	1-216-295-00	METAL GLAZE	0	5%	1/10W
R475	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R476	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R477	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R478	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R479	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R480	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R481	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R482	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R483	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R485	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R486	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R488	1-216-295-00	METAL GLAZE	0	5%	1/10W
R494	1-216-025-00	METAL GLAZE	100	5%	1/10W
R495	1-216-025-00	METAL GLAZE	100	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R496	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R497	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R498	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R499	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R500	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R501	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R502	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R503	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R504	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R507	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R509	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R510	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R512	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R513	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R515	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R517	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R518	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R519	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R521	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R522	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R523	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R524	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R525	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R526	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R527	1-218-754-11	METAL CHIP	120K	0.50%	1/10W	
R528	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R529	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R531	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R532	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R533	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R535	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R536	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R537	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R538	1-218-754-11	METAL CHIP	120K	0.50%	1/10W	
R539	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R542	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R543	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R546	1-216-682-11	METAL CHIP	20K	0.50%	1/10W	
R547	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
Y2-401	1-573-966-11	PIN, CONNECTOR (PC BOARD) 36P

****

*A-1316-149-A G BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C601	1-161-830-00	CERAMIC	4700PF	10%	500V	
C602	1-130-317-00	FILM	0.068MF	5%	100V	
C603	1-124-634-11	ELECT	1MF	20%	250V	
C605	1-164-143-11	CERAMIC	0.001MF	10%	1KV	
C606	1-124-563-11	ELECT	2200MF	20%	25V	
C607	1-124-563-11	ELECT	2200MF	20%	25V	
C608	1-128-484-11	ELECT	100MF	20%	200V	
C609	1-137-141-11	FILM	0.082MF	3%	600V	
C612	1-124-962-11	ELECT	2200MF	20%	25V	
C614	1-126-326-51	ELECT	10MF	20%	200V	
C615	1-124-798-11	ELECT	1MF	20%	160V	
C616	1-124-557-11	ELECT	1000MF	20%	25V	
C617	1-164-143-11	CERAMIC	0.001MF	10%	1KV	
C618	1-136-853-11	FILM	0.56MF	5%	200V	
C619	1-164-735-11	CAP, CERAMIC 1500PF				
C620	1-136-721-21	FILM	1.5MF	10%	400V	
C621	1-164-143-11	CERAMIC	0.001MF	10%	1KV	
C622	1-136-853-11	FILM	0.56MF	5%	200V	
C623	1-137-087-11	FILM	0.068MF	3%	0	
C624	1-126-771-11	ELECT	100MF	20%	160V	
C625	1-126-183-11	ELECT	1000MF	20%	16V	
C626	1-126-373-11	ELECT	470MF	20%	10V	
C628	1-161-830-00	CERAMIC	4700PF	10%	500V	
C629	1-124-607-11	ELECT	2200MF	20%	50V	
C631	1-126-803-11	ELECT	47MF	20%	50V	
C632	1-124-903-11	ELECT	1MF	20%	50V	
C633	1-130-483-00	MYLAR	0.01MF	5%	50V	
C634	1-126-803-11	ELECT	47MF	20%	16V	
C637 ⚠	1-136-311-51	FILM	0.47MF	20%	125V	
C638 ⚠	1-161-743-12	CERAMIC	0.0047MF		400V	
C639 ⚠	1-125-692-11	ELECT(BLOCK)	820MF	20%	200V	
C640 ⚠	1-136-311-51	FILM	0.47MF	20%	125V	
C641	1-126-101-11	ELECT	100MF	20%	16V	
C642 ⚠	1-161-743-12	CERAMIC	0.0047MF		400V	
C644	1-126-104-11	ELECT	470MF	20%	35V	
C646	1-124-907-11	ELECT	10MF	20%	50V	
C647 ⚠	1-164-486-51	CERAMIC	0.0033MF	20%	400V	
C648 ⚠	1-125-692-11	ELECT(BLOCK)	820MF	20%	200V	
C649 ⚠	1-164-486-51	CERAMIC	0.0033MF	20%	400V	
C650 ⚠	1-161-743-12	CERAMIC	0.0047MF		400V	
C660	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C661	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C662	1-124-910-11	ELECT	47MF	20%	35V	
C663	1-126-017-11	ELECT	6800MF	20%	16V	
C664	1-126-017-11	ELECT	6800MF	20%	16V	
C670	1-102-074-00	CERAMIC	0.001MF	10%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D602	8-719-979-58	DIODE EGP10D	
D603	8-719-500-67	DIODE D5KC40H	
	4-382-854-11	SCREW (M3X10), P, SW (+); D603	
D604	8-719-510-09	DIODE D10SC6M	
	4-382-854-11	SCREW (M3X10), P, SW (+); D604	
D605	8-719-988-31	DIODE D10SC6MR	
	4-382-854-11	SCREW (M3X10), P, SW (+); D605	
D607	8-719-025-81	DIODE S3V10SB	
D608	8-719-109-85	DIODE RD5.1ESB2	
D609	8-719-109-84	DIODE RD5.1ESB1	
D610	8-719-979-58	DIODE EGP10D	
D611	8-719-979-58	DIODE EGP10D	
D613	8-719-303-57	DIODE RU2AM	
D614	8-719-979-58	DIODE EGP10D	
D615	8-719-975-76	DIODE SB140	
D616	8-719-025-81	DIODE S3V10SB	
D617	8-719-110-02	DIODE RD7.5ES-B1	
D618	8-719-911-19	DIODE 1SS119	
D619	8-719-975-76	DIODE SB140	
D620 ⚠	8-719-988-31	DIODE D10SC6MR	
D621	8-719-908-03	DIODE GP08D	
D622	8-719-908-03	DIODE GP08D	
D623	8-719-110-63	DIODE RD24ESB3	
D624	8-719-109-89	DIODE RD5.6ESB2	
D626	8-719-908-03	DIODE GP08D	
D628	8-719-110-49	DIODE RD18ESB2	
D629	8-719-911-19	DIODE 1SS119	
D631	8-719-911-19	DIODE 1SS119	

G

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D632	8-719-511-40	DIODE S1VB40	
D633 ⚠	8-719-535-60	DIODE S5VB60	
D634	8-719-911-19	DIODE 1SS119	
D636	8-719-109-85	DIODE RD5.1ESB2	
D638	8-719-911-19	DIODE 1SS119	
D640 ⚠	8-719-510-39	DIODE D1CSC8	
D650	8-719-160-81	DIODE RD27FB2	

<FUSE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
F601 ⚠	1-532-748-11	FUSE, GLASS TUBE 6.3A/125V	
	1-533-223-11	CLIP, FUSE; F601	

<FERRITE BEAD>

REF.NO.	PART NO.	DESCRIPTION	REMARK
FB602	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB606	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB607	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB608	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB612	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB622	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB630	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB631	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
G-1	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
G-2	*1-564-512-11	PLUG, CONNECTOR 9P	
G-3	*1-564-507-11	PLUG, CONNECTOR 4P	
G-4	*1-564-511-51	PLUG, CONNECTOR 8P	
G-5	*1-564-508-11	PLUG, CONNECTOR 5P	
G-7	*1-564-507-11	PLUG, CONNECTOR 4P	
G-8	*1-580-843-11	PIN, CONNECTOR (POWER)	
G-9	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
G-10	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
G-11	*1-564-511-71	PLUG, CONNECTOR 8P	
G-12	*1-564-505-11	PLUG, CONNECTOR 2P	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC601 ⚠	8-749-921-89	IC SE115N	
IC602	8-759-231-58	IC TA7812S	
	4-382-854-11	SCREW (M3X10), P, SW (+); IC602	

<JUMPER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
JW76	1-408-421-00	INDUCTOR 100UH	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L602	1-459-862-11	COIL, CHOKE 90UH	
L604	1-408-404-00	INDUCTOR 3.9UH	
L605	1-412-526-11	INDUCTOR 12UH	
L607	1-408-404-00	INDUCTOR 3.9UH	
L611	1-412-546-41	INDUCTOR 560UH	
L612	1-412-540-31	INDUCTOR 180UH	
L613	1-412-522-41	INDUCTOR 5.6UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q603	8-729-011-15	TRANSISTOR 2SC4582NP	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q603	
Q604	8-729-119-80	TRANSISTOR 2SC2688-LK	
	3-701-754-00	PLATE, INSULATING; Q604	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q604	
Q607	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q608	8-729-326-11	TRANSISTOR 2SC2611	
Q609	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q610	8-729-820-82	TRANSISTOR 2SA1208-S	
Q611	8-729-820-82	TRANSISTOR 2SA1208-S	
Q612	8-729-386-12	TRANSISTOR 2SB861-C	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q612	
Q613	8-729-209-15	TRANSISTOR 2SD2012	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q613	
Q614	8-729-011-15	TRANSISTOR 2SC4582NP	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q614	
Q615	8-729-820-82	TRANSISTOR 2SA1208-S	
Q616	8-729-208-39	TRANSISTOR 2SA1306A-Y	
Q618	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q620	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q621	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q623	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q629	8-729-378-84	TRANSISTOR 2SD788-5	
Q630	8-729-255-12	TRANSISTOR 2SC2551-O	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
R604	1-202-933-11	FUSIBLE 0.1 10% 1/2W	F
R605	1-249-428-11	CARBON 8.2K 5% 1/4W	
R606	1-214-919-00	METAL 180K 1% 1/2W	
R609	1-249-434-11	CARBON 27K 5% 1/4W	F
R610	1-215-469-00	METAL 100K 1% 1/4W	
R611	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R612	1-202-883-11	SOLID 680K 20% 1/2W	
R613 ⚠	1-216-388-91	METAL OXIDE 0.56 5% 3W	F
R614	1-249-418-11	CARBON 1.2K 5% 1/4W	
R615	1-215-438-00	METAL 5.1K 1% 1/4W	
R616	1-215-436-00	METAL 4.3K 1% 1/4W	
R617 ⚠	1-216-356-91	METAL OXIDE 3.9 5% 1W	F
R618	1-249-418-11	CARBON 1.2K 5% 1/4W	
R619 ⚠	1-216-444-91	METAL OXIDE 82K 5% 1W	F
R620	1-249-418-11	CARBON 1.2K 5% 1/4W	F
R621	1-247-691-11	CARBON 18 5% 1/4W	F
R622	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R623	1-249-417-11	CARBON 1K 5% 1/4W	
R624	1-214-780-00	METAL 130K 1% 1/4W	
R625 ⚠	1-218-386-91	METAL OXIDE 0.56 5% 3W	F
R626 ⚠	1-216-356-91	METAL OXIDE 3.9 5% 1W	F
R627	1-202-883-11	SOLID 680K 20% 1/2W	
R628	1-249-410-11	CARBON 270 5% 1/4W	F
R629 ⚠	1-217-249-11	WIREWOUND 1 10% 3W	F
R631	1-249-417-11	CARBON 1K 5% 1/4W	F
R632	1-214-913-00	METAL 100K 1% 1/2W	
R633	1-249-429-11	CARBON 10K 5% 1/4W	
R634	1-249-441-11	CARBON 100K 5% 1/4W	
R635 ⚠	1-215-897-91	METAL OXIDE 6.8K 5% 2W	F
R636	1-260-065-11	CARBON 1.2 5% 1/2W	
R638	1-249-405-11	CARBON 100 5% 1/4W	F
R639	1-249-405-11	CARBON 100 5% 1/4W	F
R640	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R641	1-249-429-11	CARBON 10K 5% 1/4W	
R642	1-215-421-00	METAL 1K 1% 1/4W	
R643	1-260-123-11	CARBON 100K 5% 1/2W	
R644	1-249-415-11	CARBON 680 5% 1/4W	
R645	1-249-417-11	CARBON 1K 5% 1/4W	
R649	1-249-424-11	CARBON 3.9K 5% 1/4W	
R650	1-249-377-11	CARBON 0.47 5% 1/4W	F

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

G **CR**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R651	1-215-429-00	METAL	2.2K	1%	1/4W	
⧓R652 ⚠		METAL			1/4W	
R654	1-215-429-00	METAL	2.2K	1%	1/4W	
R655	1-249-426-11	CARBON	5.6K	5%	1/4W	
R656	1-215-454-00	METAL	24K	1%	1/4W	
R657 ⚠	1-216-386-91	METAL OXIDE	0.56	5%	3W	F
R660	1-249-413-11	CARBON	470	5%	1/4W	
R661 ⚠	1-202-884-91	SOLID	820K	20%	1/2W	
R662 ⚠	1-205-930-11	WIREWOUND	1.2	5%	15W	
R663 ⚠	1-215-904-91	METAL OXIDE	100K	5%	2W	F
R666	1-249-377-11	CARBON	0.47	5%	1/4W	F
R667 ⚠	1-202-888-91	SOLID	2.2M	20%	1/2W	
R668 ⚠	1-215-904-91	METAL OXIDE	100K	5%	2W	F
R669	1-249-377-11	CARBON	0.47	5%	1/4W	F
R675	1-249-377-11	CARBON	0.47	5%	1/4W	F
R687	1-249-417-11	CARBON	1K	5%	1/4W	F
R689	1-247-742-11	CARBON	180	5%	1/2W	F
R691	1-249-421-11	CARBON	2.2K	5%	1/4W	
R694	1-249-421-11	CARBON	2.2K	5%	1/4W	
R697	1-249-382-11	CARBON	1.2	5%	1/4W	F
R698 ⚠	1-216-386-91	METAL OXIDE	0.56	5%	3W	F

<RELAY>

REF.NO.	PART NO.	DESCRIPTION
RY601 ⚠	1-515-805-11	RELAY, POWER
RY602 ⚠	1-515-805-11	RELAY, POWER

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION
T601 ⚠	1-450-791-12	TRANSFORMER, POWER ISOLATION
T603 ⚠	1-424-020-11	FBT
T604 ⚠	1-450-149-11	TRANSFORMER, HEATER
T605 ⚠	1-424-023-12	TRANSFORMER, LINE FILTER
T606 ⚠	1-421-372-21	TRANSFORMER, FERRITE (LFT)
T608 ⚠	1-423-665-11	TRANSFORMER, POWER

<VARISTOR>

REF.NO.	PART NO.	DESCRIPTION
VDR601 ⚠	1-809-786-11	VARISTOR

****

*A-1331-259-A CR BOARD, COMPLETE

****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			
C701	1-162-115-00	CERAMIC	330PF	10%	2KV
C702	1-123-948-00	ELECT	22MF	20%	250V
C703	1-102-050-00	CERAMIC	0.01MF		500V
C704	1-162-115-00	CERAMIC	330PF	10%	2KV
C705	1-130-479-00	MYLAR	0.0047MF	5%	50V
C706	1-101-006-00	CERAMIC	0.047MF		50V
C707	1-101-006-00	CERAMIC	0.047MF		50V
C709	1-124-120-11	ELECT	220MF	20%	16V
C710	1-124-120-11	ELECT	220MF	20%	16V
C711	1-102-114-00	CERAMIC	470PF	10%	50V

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
CR1	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P
CR3	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P
CR4	*1-564-511-11	PLUG, CONNECTOR 8P
CR15	*1-564-508-11	PLUG, CONNECTOR 5P

<PICTURE TUBE SOCKET>

REF.NO.	PART NO.	DESCRIPTION
CRT701 ⚠	1-251-026-11	SOCKET, PICTURE TUBE

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D701	8-719-911-19	DIODE 1SS119
D702	8-719-911-19	DIODE 1SS119
D703	8-719-911-19	DIODE 1SS119
D704	8-719-911-19	DIODE 1SS119
D705	8-719-911-19	DIODE 1SS119
D706	8-719-911-19	DIODE 1SS119
D707	8-719-110-36	DIODE RD13ESB2

<COIL>

REF.NO.	PART NO.	DESCRIPTION	
L701	1-408-429-00	INDUCTOR	470UH
L702	1-408-159-00	COIL, SPOOK CHOKE	3.3UH
L703	1-408-159-00	COIL, SPOOK CHOKE	3.3UH
L704	1-408-413-00	INDUCTOR	22UH

<NEON LAMP>

REF.NO.	PART NO.	DESCRIPTION
NL701	1-519-108-XX	LAMP, NEON
NL702	1-519-108-XX	LAMP, NEON

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q703	8-729-119-80	TRANSISTOR 2SC2688-LK
	4-373-933-01	SHEET (TRANSISTOR), BN; Q703
	4-382-854-11	SCREW (M3X10), P, SW (+); Q703
Q704	8-729-255-12	TRANSISTOR 2SC2551-0
Q705	8-729-200-17	TRANSISTOR 2SA1091-0
Q706	8-729-200-17	TRANSISTOR 2SA1091-0

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R701	1-202-847-00	SOLID	560K	20%	1/2W	
R702	1-202-814-11	SOLID	33K	20%	1/2W	
R703	1-202-818-00	SOLID	1K	20%	1/2W	
R704	1-202-842-11	SOLID	220K	20%	1/2W	
R705	1-202-828-11	SOLID	6.8K	20%	1/2W	
R706	1-202-561-00	SOLID	330	20%	1/2W	
R707 ⚠	1-216-530-91	METAL OXIDE	8.2K	5%	5W	F
R708	1-249-405-11	CARBON	100	5%	1/4W	F
R709	1-249-405-11	CARBON	100	5%	1/4W	F
R710 ⚠	1-215-927-91	METAL OXIDE	47K	5%	3W	F
R711	1-249-405-11	CARBON	100	5%	1/4W	F
R712	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R714	1-249-401-11	CARBON	47	5%	1/4W	
R716	1-249-405-11	CARBON	100	5%	1/4W	
R717	1-249-403-11	CARBON	68	5%	1/4W	
R718	1-249-412-11	CARBON	390	5%	1/4W	
R719	1-249-410-11	CARBON	270	5%	1/4W	
R720	1-249-405-11	CARBON	100	5%	1/4W	
R721	1-249-409-11	CARBON	220	5%	1/4W	
R722	1-215-423-00	METAL	1.2K	1%	1/4W	
R723	1-249-410-11	CARBON	270	5%	1/4W	
R724	1-215-429-00	METAL	2.2K	1%	1/4W	

<SPARK GAP>

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation Should replacement be required, replace only with the value originally used

CR **CG** **CB**

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
SG701	1-519-422-11	GAP, SPARK	
SG702	1-519-422-11	GAP, SPARK	

****

*A-1331-260-A CG BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C731	1-162-115-00	CERAMIC 330PF 10% 2KV	
C732	1-123-948-00	ELECT 22MF 20% 250V	
C733	1-102-050-00	CERAMIC 0.01MF 500V	
C734	1-162-115-00	CERAMIC 330PF 10% 2KV	
C735	1-130-479-00	MYLAR 0.0047MF 5% 50V	
C736	1-101-006-00	CERAMIC 0.047MF 50V	
C737	1-101-006-00	CERAMIC 0.047MF 50V	
C739	1-124-120-11	ELECT 220MF 20% 16V	
C740	1-124-120-11	ELECT 220MF 20% 16V	
C741	1-102-114-00	CERAMIC 470PF 10% 50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CG1	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CG3	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CG16	*1-564-508-11	PLUG, CONNECTOR 5P	

<PICTURE TUBE SOCKET>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CRT731	⚠1-251-026-11	SOCKET, PICTURE TUBE	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D731	8-719-911-19	DIODE 1SS119	
D732	8-719-911-19	DIODE 1SS119	
D733	8-719-911-19	DIODE 1SS119	
D734	8-719-911-19	DIODE 1SS119	
D735	8-719-911-19	DIODE 1SS119	
D736	8-719-911-19	DIODE 1SS119	
D737	8-719-911-19	DIODE 1SS119	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L731	1-408-429-00	INDUCTOR 470UH	
L732	1-408-159-00	COIL, SPOOK CHOKE 3.3UH	
L733	1-408-159-00	COIL, SPOOK CHOKE 3.3UH	
L734	1-408-413-00	INDUCTOR 22UH	

<NEON LAMP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
NL731	1-519-108-XX	LAMP, NEON	
NL732	1-519-108-XX	LAMP, NEON	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q731	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q732	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q733	8-729-119-80	TRANSISTOR 2SC2688-LK	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q733	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q733	
Q734	8-729-255-12	TRANSISTOR 2SC2551-0	
Q735	8-729-200-17	TRANSISTOR 2SA1091-0	
Q736	8-729-200-17	TRANSISTOR 2SA1091-0	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
R731	1-202-847-00	SOLID 560K 20% 1/2W	
R732	1-202-814-11	SOLID 33K 20% 1/2W	
R733	1-202-818-00	SOLID 1K 20% 1/2W	
R734	1-202-842-11	SOLID 220K 20% 1/2W	
R735	1-202-828-11	SOLID 6.8K 20% 1/2W	
R736	1-202-561-00	SOLID 330 20% 1/2W	
R737	⚠1-218-313-51	METAL OXIDE 8.2K 5% 5W	F
R738	1-249-405-11	CARBON 100 5% 1/4W	F
R739	1-249-405-11	CARBON 100 5% 1/4W	F
R740	⚠1-215-927-91	METAL OXIDE 47K 5% 3W	F
R741	1-249-405-11	CARBON 100 5% 1/4W	F
R742	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R744	1-249-401-11	CARBON 47 5% 1/4W	
R745	1-215-455-00	METAL 27K 1% 1/4W	
R746	1-249-405-11	CARBON 100 5% 1/4W	
R747	1-249-403-11	CARBON 68 5% 1/4W	
R748	1-249-412-11	CARBON 390 5% 1/4W	
R749	1-249-410-11	CARBON 270 5% 1/4W	
R750	1-249-405-11	CARBON 100 5% 1/4W	
R751	1-249-409-11	CARBON 220 5% 1/4W	
R752	1-215-423-00	METAL 1.2K 1% 1/4W	
R754	1-215-429-00	METAL 2.2K 1% 1/4W	

<SPARK GAP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
SG731	1-519-422-11	GAP, SPARK	
SG732	1-519-422-11	GAP, SPARK	

****

*A-1331-261-A CB BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C761	1-162-115-00	CERAMIC 330PF 10% 2KV	
C762	1-123-948-00	ELECT 22MF 20% 250V	
C763	1-102-050-00	CERAMIC 0.01MF 500V	
C764	1-162-115-00	CERAMIC 330PF 10% 2KV	
C765	1-130-479-00	MYLAR 0.0047MF 5% 50V	
C766	1-101-006-00	CERAMIC 0.047MF 50V	
C767	1-101-006-00	CERAMIC 0.047MF 50V	
C769	1-124-120-11	ELECT 220MF 20% 16V	
C770	1-124-120-11	ELECT 220MF 20% 16V	
C771	1-102-114-00	CERAMIC 470PF 10% 50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CB1	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CB3	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CB4	*1-564-511-11	PLUG, CONNECTOR 8P	
CB5	*1-564-511-11	PLUG, CONNECTOR 8P	
CB17	*1-564-508-11	PLUG, CONNECTOR 5P	

<PICTURE TUBE SOCKET>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CRT761	⚠1-251-026-11	SOCKET, PICTURE TUBE	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D761	8-719-911-19	DIODE 1SS119	
D762	8-719-911-19	DIODE 1SS119	
D763	8-719-911-19	DIODE 1SS119	
D764	8-719-911-19	DIODE 1SS119	

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

CB **V**

REF.NO.	PART NO.	DESCRIPTION	REMARK
D765	8-719-911-19	DIODE 1SS119	
D766	8-719-911-19	DIODE 1SS119	
D768	8-719-911-19	DIODE 1SS119	
D769	8-719-109-81	DIODE RD4.7ESB2	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L761	1-408-429-00	INDUCTOR 470UH	
L762	1-408-159-00	COIL, SPOOK CHOKE 3.3UH	
L763	1-408-159-00	COIL, SPOOK CHOKE 3.3UH	
L764	1-408-413-00	INDUCTOR 22UH	

<NEON LAMP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
NL761	1-519-108-XX	LAMP, NEON	
NL762	1-519-108-XX	LAMP, NEON	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q761	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q762	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q763	8-729-119-80	TRANSISTOR 2SC2688-LK	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q763	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q763	
Q764	8-729-255-12	TRANSISTOR 2SC2551-O	
Q765	8-729-200-17	TRANSISTOR 2SA1091-O	
Q766	8-729-200-17	TRANSISTOR 2SA1091-O	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R761	1-202-847-00	SOLID	560K	20%	1/2W	
R762	1-202-814-11	SOLID	33K	20%	1/2W	
R763	1-202-818-00	SOLID	1K	20%	1/2W	
R764	1-202-842-11	SOLID	220K	20%	1/2W	
R765	1-202-828-11	SOLID	6.8K	20%	1/2W	
R766	1-202-561-00	SOLID	330	20%	1/2W	
R767 ⚠	1-216-510-31	METAL OXIDE	8.2K	5%	5W	F
R768	1-249-405-11	CARBON	100	5%	1/4W	F
R769	1-249-405-11	CARBON	100	5%	1/4W	F
R770 ⚠	1-215-327-91	METAL OXIDE	47K	5%	3W	F
R771	1-249-405-11	CARBON	100	5%	1/4W	F
R772	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R773	1-249-413-11	CARBON	470	5%	1/4W	
R774	1-249-401-11	CARBON	47	5%	1/4W	
R776	1-249-405-11	CARBON	100	5%	1/4W	
R777	1-249-403-11	CARBON	68	5%	1/4W	
R778	1-249-412-11	CARBON	390	5%	1/4W	
R779	1-249-415-11	CARBON	680	5%	1/4W	
R780	1-249-405-11	CARBON	100	5%	1/4W	
R781	1-249-409-11	CARBON	220	5%	1/4W	
R782	1-215-423-00	METAL	1.2K	1%	1/4W	
R783	1-215-433-00	METAL	3.3K	1%	1/4W	
R784	1-215-429-00	METAL	2.2K	1%	1/4W	
R785	1-215-418-00	METAL	750	1%	1/4W	

<SPARK GAP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
SG761	1-519-422-11	GAP, SPARK	
SG762	1-519-422-11	GAP, SPARK	

****

*A-1342-214-A V BOARD, COMPLETE
****

*4-395-527-01 HOLDER (B), TR; Q1501-Q1502

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1501	1-102-129-00	CERAMIC	0.01MF	10%	50V	
C1502	1-126-101-11	ELECT	100MF	20%	16V	
C1504	1-106-383-00	MYLAR	0.047MF		200V	
C1505	1-124-907-11	ELECT	10MF	20%	50V	
C1506	1-106-359-00	MYLAR	0.0047MF	10%	200V	
C1507	1-106-367-00	MYLAR	0.01MF	10%	100V	
C1508	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C1509	1-106-367-00	MYLAR	0.01MF	10%	100V	
C1510	1-126-355-11	ELECT	33MF	20%	160V	
C1511	1-124-668-11	ELECT	2.2MF	20%	200V	
C1512	1-106-391-12	MYLAR	0.1MF	10%	200V	
C1513	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C1514	1-102-951-00	CERAMIC	15PF	5%	50V	
C1515	1-102-959-00	CERAMIC	22PF	5%	50V	
C1516	1-102-963-00	CERAMIC	33PF	5%	50V	
C1517	1-123-875-11	ELECT	10MF	20%	50V	
C1518	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C1519	1-106-359-00	MYLAR	0.0047MF	10%	200V	
C1520	1-126-803-11	ELECT	47MF	20%	16V	
C1521	1-124-907-11	ELECT	10MF	20%	50V	
C1534	1-101-003-00	CERAMIC	0.0047MF		50V	
C1551	1-124-122-11	ELECT	100MF	20%	50V	
C1552	1-124-122-11	ELECT	100MF	20%	50V	
C1553	1-102-824-00	CERAMIC	470PF	5%	50V	
C1554	1-102-824-00	CERAMIC	470PF	5%	50V	
C1555	1-130-483-00	MYLAR	0.01MF	5%	50V	
C1556	1-130-483-00	MYLAR	0.01MF	5%	50V	
C1557	1-102-824-00	CERAMIC	470PF	5%	50V	
C1558	1-102-824-00	CERAMIC	470PF	5%	50V	
C1559	1-102-824-00	CERAMIC	470PF	5%	50V	
C1560	1-102-824-00	CERAMIC	470PF	5%	50V	
C1561	1-130-483-00	MYLAR	0.01MF	5%	50V	
C1562	1-130-483-00	MYLAR	0.01MF	5%	50V	
C1563	1-130-483-00	MYLAR	0.01MF	5%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1501	8-719-911-19	DIODE 1SS119	
D1502	8-719-911-19	DIODE 1SS119	
D1503	8-719-911-19	DIODE 1SS119	
D1504	8-719-911-19	DIODE 1SS119	
D1505	8-719-911-19	DIODE 1SS119	
D1506	8-719-911-19	DIODE 1SS119	
D1507	8-719-110-88	DIODE RD39ESB2	
D1508	8-719-110-88	DIODE RD39ESB2	
D1509	8-719-911-19	DIODE 1SS119	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1551	8-759-145-58	IC UPC4558C	
IC1552	8-759-912-77	IC LM324N	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L1502	1-408-418-00	INDUCTOR 56UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1501	8-729-208-39	TRANSISTOR 2SA1306A-Y	
Q1502	8-729-017-06	TRANSISTOR 2SC4793	
Q1503	8-729-119-78	TRANSISTOR 2SC2785-HFE	

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

V **D**

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q1504	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1505	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1506	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1507	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1508	8-729-142-86	TRANSISTOR 2SC3733				
Q1551	8-729-231-60	TRANSISTOR 2SD1406-YGR				
Q1552	8-729-202-02	TRANSISTOR 2SB1015-Y				
Q1553	8-729-231-60	TRANSISTOR 2SD1406-YGR				
Q1554	8-729-202-02	TRANSISTOR 2SB1015-Y				
Q1555	8-729-231-60	TRANSISTOR 2SD1406-YGR				
Q1556	8-729-202-02	TRANSISTOR 2SB1015-Y				
		<RESISTOR>				
R1501	1-249-451-11	CARBON	2.2	5%	1/4W	F
R1502	1-249-414-11	CARBON	560	5%	1/4W	F
R1503	1-247-734-11	CARBON	39	5%	1/2W	F
R1504	1-249-384-11	CARBON	1.8	5%	1/4W	F
R1505	1-249-405-11	CARBON	100	5%	1/4W	
R1506	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1507	1-249-412-11	CARBON	390	5%	1/4W	
R1508	1-249-436-11	CARBON	39K	5%	1/4W	
R1509	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1510	1-249-436-11	CARBON	39K	5%	1/4W	
R1511	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1512	1-249-441-11	CARBON	100K	5%	1/4W	
R1513	1-249-432-11	CARBON	18K	5%	1/4W	
R1514	1-249-405-11	CARBON	100	5%	1/4W	
R1515	1-249-435-11	CARBON	33K	5%	1/4W	
R1517	1-247-713-11	CARBON	1K	5%	1/4W	F
R1519	⚠1-215-916-31	METAL OXIDE	680	5%	3W	F
R1520	1-249-432-11	CARBON	18K	5%	1/4W	
R1521	1-249-414-11	CARBON	560	5%	1/4W	
R1522	1-249-384-11	CARBON	1.8	5%	1/4W	F
R1523	1-249-400-11	CARBON	39	5%	1/4W	F
R1524	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1525	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1526	1-249-426-11	CARBON	5.6K	5%	1/4W	
R1527	1-249-414-11	CARBON	560	5%	1/4W	
R1528	1-249-429-11	CARBON	10K	5%	1/4W	
R1529	1-249-414-11	CARBON	560	5%	1/4W	
R1530	⚠1-216-451-91	METAL OXIDE	120	5%	2W	F
R1531	1-249-429-11	CARBON	10K	5%	1/4W	
R1532	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1533	1-247-903-00	CARBON	1M	5%	1/4W	
R1534	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1535	1-249-392-11	CARBON	8.2	5%	1/4W	F
R1540	1-215-445-00	METAL	10K	1%	1/4W	
R1541	1-215-445-00	METAL	10K	1%	1/4W	
R1542	1-215-445-00	METAL	10K	1%	1/4W	
R1551	1-215-445-00	METAL	10K	1%	1/4W	
R1552	1-215-423-00	METAL	1.2K	1%	1/4W	
R1553	1-249-417-11	CARBON	1K	5%	1/4W	
R1554	1-215-445-00	METAL	10K	1%	1/4W	
R1555	1-215-375-00	METAL	12	1%	1/4W	
R1556	1-215-375-00	METAL	12	1%	1/4W	
R1557	1-215-375-00	METAL	12	1%	1/4W	
R1558	1-215-445-00	METAL	10K	1%	1/4W	
R1559	1-215-445-00	METAL	10K	1%	1/4W	
R1560	1-215-445-00	METAL	10K	1%	1/4W	
R1561	1-215-423-00	METAL	1.2K	1%	1/4W	
R1562	1-215-423-00	METAL	1.2K	1%	1/4W	
R1563	1-215-445-00	METAL	10K	1%	1/4W	
R1564	1-249-417-11	CARBON	1K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1565	1-215-445-00	METAL	10K	1%	1/4W	
R1566	1-215-375-00	METAL	12	1%	1/4W	
R1567	1-215-375-00	METAL	12	1%	1/4W	
R1568	1-215-375-00	METAL	12	1%	1/4W	
R1569	1-215-445-00	METAL	10K	1%	1/4W	
R1570	1-215-445-00	METAL	10K	1%	1/4W	
R1571	1-249-417-11	CARBON	1K	5%	1/4W	
R1572	1-215-445-00	METAL	10K	1%	1/4W	
R1573	1-215-375-00	METAL	12	1%	1/4W	
R1574	1-215-375-00	METAL	12	1%	1/4W	
R1575	1-215-375-00	METAL	12	1%	1/4W	
R1576	1-215-445-00	METAL	10K	1%	1/4W	
R1577	1-215-445-00	METAL	10K	1%	1/4W	
R1578	1-249-417-11	CARBON	1K	5%	1/4W	
R1579	1-249-417-11	CARBON	1K	5%	1/4W	
R1580	1-249-417-11	CARBON	1K	5%	1/4W	
R1581	1-249-432-11	CARBON	18K	5%	1/4W	
R1582	1-249-432-11	CARBON	18K	5%	1/4W	
		<CONNECTOR>				
V2	*1-564-518-11	PLUG, CONNECTOR 3P				
V22	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P				

****

*A-1346-117-A D BOARD, COMPLETE
****

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<CAPACITOR>				
C901	1-126-320-11	ELECT	10MF	20%	16V	
C902	1-124-477-11	ELECT	47MF	20%	16V	
C903	1-130-471-00	MYLAR	0.001MF	5%	50V	
C904	1-130-471-00	MYLAR	0.001MF	5%	50V	
C905	1-124-477-11	ELECT	47MF	20%	16V	
C906	1-126-233-11	ELECT	22MF	20%	50V	
C907	1-126-101-11	ELECT	100MF	20%	16V	
C908	1-124-907-11	ELECT	10MF	20%	50V	
C910	1-130-483-00	MYLAR	0.01MF	5%	50V	
C911	1-131-341-00	TANTALUM	0.1MF	20%	16V	
C912	1-124-903-11	ELECT	1MF	20%	50V	
C913	1-126-233-11	ELECT	22MF	20%	50V	
C914	1-126-803-11	ELECT	47MF	20%	16V	
C915	1-124-927-11	ELECT	4.7MF	20%	50V	
C916	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C917	1-130-471-00	MYLAR	0.001MF	5%	50V	
C918	1-102-963-00	CERAMIC	33PF	5%	50V	
C919	1-102-963-00	CERAMIC	33PF	5%	50V	
C920	1-102-963-00	CERAMIC	33PF	5%	50V	
C921	1-102-963-00	CERAMIC	33PF	5%	50V	
C922	1-102-963-00	CERAMIC	33PF	5%	50V	
C923	1-102-963-00	CERAMIC	33PF	5%	50V	
C931	1-102-973-00	CERAMIC	100PF	5%	50V	
C932	1-124-903-11	ELECT	1MF	20%	50V	
C933	1-124-234-00	ELECT	22MF	20%	16V	
C934	1-124-234-00	ELECT	22MF	20%	16V	
C935	1-124-234-00	ELECT	22MF	20%	16V	
C936	1-124-234-00	ELECT	22MF	20%	16V	
C937	1-124-234-00	ELECT	22MF	20%	16V	
C938	1-124-234-00	ELECT	22MF	20%	16V	
C939	1-124-234-00	ELECT	22MF	20%	16V	
C940	1-124-916-11	ELECT	22MF	20%	25V	
C941	1-102-123-00	CERAMIC	0.0033MF	10%	50V	

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
C942	1-102-123-00	CERAMIC	0.0033MF	10%	50V	
C943	1-102-123-00	CERAMIC	0.0033MF	10%	50V	
C1701	1-124-907-11	ELECT	10MF	20%	50V	
C1702	1-124-907-11	ELECT	10MF	20%	50V	
C1703	1-124-907-11	ELECT	10MF	20%	50V	
C1704	1-123-875-11	ELECT	10MF	20%	50V	
C1705	1-102-963-00	CERAMIC	33PF	5%	50V	
C1706	1-102-963-00	CERAMIC	33PF	5%	50V	
C1707	1-102-963-00	CERAMIC	33PF	5%	50V	
C1708	1-102-963-00	CERAMIC	33PF	5%	50V	
C1709	1-102-963-00	CERAMIC	33PF	5%	50V	
C1710	1-102-963-00	CERAMIC	33PF	5%	50V	
C1711	1-126-233-11	ELECT	22MF	20%	50V	
C1712	1-124-916-11	ELECT	22MF	20%	25V	
C1713	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C1714	1-124-478-11	ELECT	100MF	20%	25V	
C1715	1-124-478-11	ELECT	100MF	20%	25V	
C1716	1-126-803-11	ELECT	47MF	20%	25V	
C1717	1-126-803-11	ELECT	47MF	20%	25V	
C1718	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C1719	1-124-234-00	ELECT	22MF	20%	16V	
C1720	1-130-491-00	MYLAR	0.047MF	5%	50V	
C1721	1-130-491-00	MYLAR	0.047MF	5%	50V	
C1722	1-130-491-00	MYLAR	0.047MF	5%	50V	
C1724	1-124-234-00	ELECT	22MF	20%	16V	
C1725	1-102-963-00	CERAMIC	33PF	5%	50V	
C1726	1-124-122-11	ELECT	100MF	20%	35V	
C1727	1-102-963-00	CERAMIC	33PF	5%	50V	
C1728	1-102-963-00	CERAMIC	33PF	5%	50V	
C1729	1-108-426-91	MYLAR	0.027MF		200V	
C1730	1-102-963-00	CERAMIC	33PF	5%	50V	
C1731	1-124-122-11	ELECT	100MF	20%	35V	
C1732	1-108-426-91	MYLAR	0.027MF		200V	
C1733	1-102-963-00	CERAMIC	33PF	5%	50V	
C1734	1-102-963-00	CERAMIC	33PF	5%	50V	
C1735	1-124-122-11	ELECT	100MF	20%	35V	
C1736	1-108-426-91	MYLAR	0.027MF		200V	
C1737	1-124-937-11	ELECT	10MF	20%	16V	
C1738	1-124-122-11	ELECT	100MF	20%	35V	
C1739	1-136-153-00	FILM	0.01MF	5%	50V	
C1740	1-124-122-11	ELECT	100MF	20%	35V	
C1741	1-124-122-11	ELECT	100MF	20%	35V	
C1742	1-126-104-11	ELECT	470MF	20%	35V	
C1744	1-124-478-11	ELECT	100MF	20%	25V	
C1745	1-126-375-11	ELECT	100MF	20%	25V	
C1755	1-106-220-00	MYLAR	0.1MF	10%	100V	
C1756	1-106-220-00	MYLAR	0.1MF	10%	100V	
C1757	1-106-220-00	MYLAR	0.1MF	10%	100V	
C1758	1-106-220-00	MYLAR	0.1MF	10%	100V	
C1759	1-106-220-00	MYLAR	0.1MF	10%	100V	
C1760	1-106-220-00	MYLAR	0.1MF	10%	100V	
C1763	1-126-096-11	ELECT	10MF	20%	25V	
C1764	1-124-477-11	ELECT	47MF	20%	16V	
C1765	1-124-477-11	ELECT	47MF	20%	16V	
C1766	1-126-101-11	ELECT	100MF	20%	16V	
C1769	1-126-157-11	ELECT	10MF	20%	16V	
C1770	1-130-495-00	MYLAR	0.1MF	5%	50V	
C1771	1-126-096-11	ELECT	10MF	20%	25V	
C1772	1-126-096-11	ELECT	10MF	20%	25V	
C1861	1-102-074-00	CERAMIC	0.001MF	10%	50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1	*1-564-510-11	PLUG, CONNECTOR 7P	
D2	*1-564-511-51	PLUG, CONNECTOR 8P	
D3	*1-564-512-11	PLUG, CONNECTOR 9P	
D4	*1-564-508-11	PLUG, CONNECTOR 5P	
D5	*1-564-511-51	PLUG, CONNECTOR 8P	
D6	1-691-169-11	PIN, CONNECTOR 12P	
D7	*1-564-507-11	PLUG, CONNECTOR 4P	
D8	*1-564-506-11	PLUG, CONNECTOR 3P	
D9	*1-564-507-11	PLUG, CONNECTOR 4P	
D14	*1-564-513-11	PLUG, CONNECTOR 10P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D901	8-719-911-19	DIODE 1SS119	
D902	8-719-911-19	DIODE 1SS119	
D1701	8-719-900-95	DIODE V09G	
D1702	8-719-911-19	DIODE 1SS119	
D1703	8-719-900-95	DIODE V09G	
D1704	8-719-900-95	DIODE V09G	
D1705	8-719-900-95	DIODE V09G	
D1706	8-719-900-95	DIODE V09G	
D1707	8-719-911-19	DIODE 1SS119	
D1708	8-719-911-19	DIODE 1SS119	
D1709	8-719-911-19	DIODE 1SS119	
D1710	8-719-911-19	DIODE 1SS119	
D1711	8-719-911-19	DIODE 1SS119	
D1712	8-719-911-19	DIODE 1SS119	
D1713	8-719-911-19	DIODE 1SS119	
D1714	8-719-911-19	DIODE 1SS119	
D1715	8-719-911-19	DIODE 1SS119	
D1716	8-719-911-19	DIODE 1SS119	
D1717	8-719-911-19	DIODE 1SS119	
D1718	8-719-911-19	DIODE 1SS119	
D1720	8-719-109-50	DIODE RD2.0ESB1	
D1721	8-719-109-50	DIODE RD2.0ESB1	
D1722	8-719-109-50	DIODE RD2.0ESB1	
D1723	8-719-109-50	DIODE RD2.0ESB1	

<FUSE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
F901 ⚠	1-532-745-11	FUSE, GLASS TUBE 3.15A/125V	
	1-533-223-11	CLIP, FUSE; F901	
F902 ⚠	1-532-745-11	FUSE, GLASS TUBE 3.15A/125V	
	1-533-223-11	CLIP, FUSE; F902	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC901	8-759-145-58	IC UPC4558C	
IC902	8-752-033-68	IC CXA1268P	
IC903	8-759-701-56	IC NJM78M05FA	
IC904	8-759-701-65	IC NJM79M05FA	
IC905	8-759-701-89	IC NJM7915FA	
	4-382-854-11	SCREW (M3X10), P, SW (+); IC905	
IC906	8-759-148-84	IC UPC2415HF	
	4-382-854-11	SCREW (M3X10), P, SW (+); IC906	
IC907	8-759-140-53	IC UPD4053BC	
IC908	8-759-145-58	IC UPC4558C	
IC910	8-759-054-40	IC PA0036	
IC1701	8-759-602-19	IC M5220L	
IC1702	8-759-602-19	IC M5220L	
IC1703	8-759-602-19	IC M5220L	
IC1704	8-749-923-16	IC STK4278-L	
IC1705	8-749-923-16	IC STK4278-L	
IC1706	8-759-113-13	IC UPC1498H	
	*4-395-527-01	HOLDER (B), TR; IC1706	
IC1707	8-759-113-13	IC UPC1498H	

D

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety Replace only with part number specified

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1708	8-759-113-13	IC UPC1498H	
IC1709	8-759-145-58	IC UPC4558C	
IC1710	8-759-145-58	IC UPC4558C	
IC1714	8-759-145-58	IC UPC4558C	
IC1715	8-759-145-58	IC UPC4558C	
IC1718	8-759-145-58	IC UPC4558C	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L901	1-459-313-00	COIL WITH CORE (HWC)	
L902	1-459-313-00	COIL WITH CORE (HWC)	
L903	1-459-313-00	COIL WITH CORE (HWC)	
L904	1-459-313-00	COIL WITH CORE (HWC)	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q902	8-729-900-89	TRANSISTOR DTC144ES	
Q906	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q907	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q908	8-729-900-89	TRANSISTOR DTC144ES	
Q909	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q910	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q911	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q912	8-729-119-76	TRANSISTOR 2SA1175-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R901	1-215-463-00	METAL	56K	1%	1/4W	
R902	1-215-463-00	METAL	56K	1%	1/4W	
R903	1-215-449-00	METAL	15K	1%	1/4W	
R904	1-215-455-00	METAL	27K	1%	1/4W	
R905	1-215-449-00	METAL	15K	1%	1/4W	
R906	1-215-469-00	METAL	100K	1%	1/4W	
R907	1-215-469-00	METAL	100K	1%	1/4W	
R908	1-215-469-00	METAL	100K	1%	1/4W	
R909	1-215-473-00	METAL	150K	1%	1/4W	
R910	1-215-437-00	METAL	4.7K	1%	1/4W	
R911	1-215-453-00	METAL	22K	1%	1/4W	
R912	1-215-453-00	METAL	22K	1%	1/4W	
R913	1-215-437-00	METAL	4.7K	1%	1/4W	
R914	1-215-453-00	METAL	22K	1%	1/4W	
R915	1-215-413-00	METAL	470	1%	1/4W	
R916	1-215-457-00	METAL	33K	1%	1/4W	
R917	1-215-453-00	METAL	22K	1%	1/4W	
R919	1-215-399-00	METAL	120	1%	1/4W	
R920	1-215-399-00	METAL	120	1%	1/4W	
R921	1-215-399-00	METAL	120	1%	1/4W	
R922	1-215-399-00	METAL	120	1%	1/4W	
R923	1-215-441-00	METAL	6.8K	1%	1/4W	
R924	1-215-441-00	METAL	6.8K	1%	1/4W	
R925	1-215-441-00	METAL	6.8K	1%	1/4W	
R926	1-215-463-00	METAL	56K	1%	1/4W	
R927	1-215-463-00	METAL	56K	1%	1/4W	
R928	1-215-461-00	METAL	47K	1%	1/4W	
R929	1-215-433-00	METAL	3.3K	1%	1/4W	
R930	1-215-433-00	METAL	3.3K	1%	1/4W	
R931	1-215-433-00	METAL	3.3K	1%	1/4W	
R932	1-215-433-00	METAL	3.3K	1%	1/4W	
R933	1-215-433-00	METAL	3.3K	1%	1/4W	
R934	1-215-433-00	METAL	3.3K	1%	1/4W	
R935	1-215-439-00	METAL	5.6K	1%	1/4W	
R936	1-215-439-00	METAL	5.6K	1%	1/4W	
R937	1-215-439-00	METAL	5.6K	1%	1/4W	
R938	1-215-417-00	METAL	680	1%	1/4W	
R939	1-215-433-00	METAL	3.3K	1%	1/4W	
R940	1-215-429-00	METAL	2.2K	1%	1/4W	
R941	1-215-441-00	METAL	6.8K	1%	1/4W	
R942	1-215-451-00	METAL	18K	1%	1/4W	
R943	1-215-441-00	METAL	6.8K	1%	1/4W	
R944	1-215-439-00	METAL	5.6K	1%	1/4W	
R945	1-215-445-00	METAL	10K	1%	1/4W	
R946	1-215-445-00	METAL	10K	1%	1/4W	
R947	1-215-439-00	METAL	5.6K	1%	1/4W	
R948	1-215-447-00	METAL	12K	1%	1/4W	
R949	1-215-439-00	METAL	5.6K	1%	1/4W	
R950	1-215-429-00	METAL	2.2K	1%	1/4W	
R951	1-215-429-00	METAL	2.2K	1%	1/4W	
R952	1-215-429-00	METAL	2.2K	1%	1/4W	
R953	1-215-439-00	METAL	5.6K	1%	1/4W	
R954	1-215-439-00	METAL	5.6K	1%	1/4W	
R955	1-215-435-00	METAL	3.9K	1%	1/4W	
R956	1-215-437-00	METAL	4.7K	1%	1/4W	
R957	1-215-441-00	METAL	6.8K	1%	1/4W	
R958	1-215-437-00	METAL	4.7K	1%	1/4W	
R959	1-215-439-00	METAL	5.6K	1%	1/4W	
R960	1-215-439-00	METAL	5.6K	1%	1/4W	
R961	1-215-439-00	METAL	5.6K	1%	1/4W	
R962	1-215-441-00	METAL	6.8K	1%	1/4W	
R963	1-215-441-00	METAL	6.8K	1%	1/4W	
R964	1-215-441-00	METAL	6.8K	1%	1/4W	
R965 ⚠	1-215-869-91	METAL OXIDE	47	5%	3W	F
R966	1-215-469-00	METAL	100K	1%	1/4W	
R967	1-215-421-00	METAL	1K	1%	1/4W	
R968	1-215-437-00	METAL	4.7K	1%	1/4W	
R969	1-249-421-11	CARBON	2.2K	5%	1/4W	
R970 ⚠	1-215-869-91	METAL OXIDE	47	5%	3W	F
R971	1-249-421-11	CARBON	2.2K	5%	1/4W	
R972	1-249-431-11	CARBON	15K	5%	1/4W	
R973	1-249-431-11	CARBON	15K	5%	1/4W	
R974	1-215-399-00	METAL	120	1%	1/4W	
R975	1-215-399-00	METAL	120	1%	1/4W	
R976	1-215-399-00	METAL	120	1%	1/4W	
R977	1-215-399-00	METAL	120	1%	1/4W	
R978	1-215-399-00	METAL	120	1%	1/4W	
R979	1-215-399-00	METAL	120	1%	1/4W	
R980	1-215-399-00	METAL	120	1%	1/4W	
R981	1-215-399-00	METAL	120	1%	1/4W	
R982	1-249-431-11	CARBON	15K	5%	1/4W	
R983	1-249-431-11	CARBON	15K	5%	1/4W	
R984	1-214-804-11	METAL	3.3	1%	1/2W	
R985	1-214-804-11	METAL	3.3	1%	1/2W	
R986	1-214-804-11	METAL	3.3	1%	1/2W	
R987	1-215-421-00	METAL	1K	1%	1/4W	
R988	1-215-421-00	METAL	1K	1%	1/4W	
R989	1-215-421-00	METAL	1K	1%	1/4W	
R990	1-215-421-00	METAL	1K	1%	1/4W	
R991	1-215-421-00	METAL	1K	1%	1/4W	
R992	1-215-421-00	METAL	1K	1%	1/4W	
R993	1-249-429-11	CARBON	10K	5%	1/4W	
R994	1-249-429-11	CARBON	10K	5%	1/4W	
R995	1-215-457-00	METAL	33K	1%	1/4W	
R997	1-215-463-00	METAL	56K	1%	1/4W	
R998	1-215-409-00	METAL	330	1%	1/4W	
R999	1-215-455-00	METAL	27K	1%	1/4W	
R1701	1-249-411-11	CARBON	330	5%	1/4W	
R1702	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1703	1-249-427-11	CARBON	6.8K	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1704	1-249-411-11	CARBON	330	5%	1/4W	
R1705	1-249-411-11	CARBON	330	5%	1/4W	
R1706	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1707	1-249-411-11	CARBON	330	5%	1/4W	
R1708	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1709	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1710	1-249-411-11	CARBON	330	5%	1/4W	
R1711	1-249-411-11	CARBON	330	5%	1/4W	
R1712	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1713 ⚠	1-215-888-91	METAL OXIDE	100	5%	2W	F
R1714	1-249-411-11	CARBON	330	5%	1/4W	
R1715	1-249-411-11	CARBON	330	5%	1/4W	
R1716 ⚠	1-215-888-91	METAL OXIDE	100	5%	2W	F
R1717	1-249-411-11	CARBON	330	5%	1/4W	
R1718	1-249-417-11	CARBON	1K	5%	1/4W	
R1719	1-214-792-00	METAL	1	1%	1/2W	
R1720	1-249-411-11	CARBON	330	5%	1/4W	
R1721	1-249-417-11	CARBON	1K	5%	1/4W	
R1722	1-249-411-11	CARBON	330	5%	1/4W	
R1723	1-249-417-11	CARBON	1K	5%	1/4W	
R1724 ⚠	1-215-888-91	METAL OXIDE	100	5%	2W	F
R1725 ⚠	1-215-888-91	METAL OXIDE	100	5%	2W	F
R1726 ⚠	1-215-888-91	METAL OXIDE	100	5%	2W	F
R1727	1-214-792-00	METAL	1	1%	1/2W	
R1728	1-214-792-00	METAL	1	1%	1/2W	
R1729	1-214-792-00	METAL	1	1%	1/2W	
R1730	1-249-405-11	CARBON	100	5%	1/4W	
R1731	1-249-417-11	CARBON	1K	5%	1/4W	
R1732	1-249-405-11	CARBON	100	5%	1/4W	
R1733	1-249-405-11	CARBON	100	5%	1/4W	
R1734	1-249-405-11	CARBON	100	5%	1/4W	
R1735	1-249-405-11	CARBON	100	5%	1/4W	
R1736	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1737	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1738	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1739	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1740	1-249-417-11	CARBON	1K	5%	1/4W	
R1741	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1742	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1743	1-249-417-11	CARBON	1K	5%	1/4W	
R1744	1-249-411-11	CARBON	330	5%	1/4W	
R1745	1-249-405-11	CARBON	100	5%	1/4W	
R1746	1-214-792-00	METAL	1	1%	1/2W	
R1747 ⚠	1-215-888-91	METAL OXIDE	100	5%	2W	F
R1748	1-215-421-00	METAL	1K	1%	1/4W	
R1749	1-215-421-00	METAL	1K	1%	1/4W	
R1750	1-215-421-00	METAL	1K	1%	1/4W	
R1751	1-215-421-00	METAL	1K	1%	1/4W	
R1752	1-215-421-00	METAL	1K	1%	1/4W	
R1753	1-215-421-00	METAL	1K	1%	1/4W	
R1754	1-214-792-00	METAL	1	1%	1/2W	
R1755	1-215-469-00	METAL	100K	1%	1/4W	
R1756	1-215-437-00	METAL	4.7K	1%	1/4W	
R1757	1-215-437-00	METAL	4.7K	1%	1/4W	
R1758	1-215-437-00	METAL	4.7K	1%	1/4W	
R1759	1-249-405-11	CARBON	100	5%	1/4W	
R1760	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1761	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1762	1-215-445-00	METAL	10K	1%	1/4W	
R1763	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1764	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1765	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1766	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1767	1-249-427-11	CARBON	6.8K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1768	1-249-439-11	CARBON	68K	5%	1/4W	
R1769	1-215-445-00	METAL	10K	1%	1/4W	
R1770	1-249-405-11	CARBON	100	5%	1/4W	
R1771	1-249-405-11	CARBON	100	5%	1/4W	
R1772	1-215-429-00	METAL	2.2K	1%	1/4W	
R1773	1-215-429-00	METAL	2.2K	1%	1/4W	
R1774	1-215-421-00	METAL	1K	1%	1/4W	
R1775	1-249-429-11	CARBON	10K	5%	1/4W	
R1776	1-215-421-00	METAL	1K	1%	1/4W	
R1777	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1778	1-215-421-00	METAL	1K	1%	1/4W	
R1779 ⚠	1-215-898-91	METAL OXIDE	10K	5%	2W	F
R1780	1-214-804-11	METAL	3.3	1%	1/2W	
R1781	1-214-804-11	METAL	3.3	1%	1/2W	
R1782 ⚠	1-215-898-91	METAL OXIDE	10K	5%	2W	F
R1783	1-214-804-11	METAL	3.3	1%	1/2W	
R1784	1-214-804-11	METAL	3.3	1%	1/2W	
R1785 ⚠	1-215-898-91	METAL OXIDE	10K	5%	2W	F
R1786	1-214-804-11	METAL	3.3	1%	1/2W	
R1787	1-214-804-11	METAL	3.3	1%	1/2W	
R1788	1-249-433-11	CARBON	22K	5%	1/4W	
R1789	1-249-441-11	CARBON	100K	5%	1/4W	
R1790	1-249-433-11	CARBON	22K	5%	1/4W	
R1791	1-249-429-11	CARBON	10K	5%	1/4W	
R1792	1-215-445-00	METAL	10K	1%	1/4W	
R1793	1-249-405-11	CARBON	100	5%	1/4W	
R1794	1-215-429-00	METAL	2.2K	1%	1/4W	
R1795	1-249-433-11	CARBON	22K	5%	1/4W	
R1796	1-249-405-11	CARBON	100	5%	1/4W	
R1797	1-249-429-11	CARBON	10K	5%	1/4W	
R1798	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1800	1-249-405-11	CARBON	100	5%	1/4W	
R1801	1-215-439-00	METAL	5.6K	1%	1/4W	
R1802	1-215-439-00	METAL	5.6K	1%	1/4W	
R1803	1-215-439-00	METAL	5.6K	1%	1/4W	
R1805	1-215-439-00	METAL	5.6K	1%	1/4W	
R1806	1-249-405-11	CARBON	100	5%	1/4W	
R1807	1-249-405-11	CARBON	100	5%	1/4W	
R1808	1-214-792-00	METAL	1	1%	1/2W	
R1809	1-214-792-00	METAL	1	1%	1/2W	
R1810	1-214-792-00	METAL	1	1%	1/2W	
R1811	1-214-792-00	METAL	1	1%	1/2W	
R1812	1-214-792-00	METAL	1	1%	1/2W	
R1813	1-214-792-00	METAL	1	1%	1/2W	
R1814	1-249-431-11	CARBON	15K	5%	1/4W	
R1815	1-247-885-00	CARBON	180K	5%	1/4W	
R1816	1-249-431-11	CARBON	15K	5%	1/4W	
R1817	1-247-885-00	CARBON	180K	5%	1/4W	
R1818	1-249-405-11	CARBON	100	5%	1/4W	
R1819	1-215-437-00	METAL	4.7K	1%	1/4W	
R1820	1-215-437-00	METAL	4.7K	1%	1/4W	
R1821	1-215-437-00	METAL	4.7K	1%	1/4W	
R1822	1-215-445-00	METAL	10K	1%	1/4W	
R1823	1-215-445-00	METAL	10K	1%	1/4W	
R1824	1-215-433-00	METAL	3.3K	1%	1/4W	
R1825	1-215-433-00	METAL	3.3K	1%	1/4W	
R1826	1-215-433-00	METAL	3.3K	1%	1/4W	
R1827	1-215-445-00	METAL	10K	1%	1/4W	
R1828	1-215-445-00	METAL	10K	1%	1/4W	
R1829	1-249-434-11	CARBON	27K	5%	1/4W	
R1830	1-249-434-11	CARBON	27K	5%	1/4W	
R1831	1-249-405-11	CARBON	100	5%	1/4W	
R1832	1-215-471-00	METAL	120K	1%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1833	1-215-471-00	METAL	120K	1%	1/4W	
R1834	1-215-471-00	METAL	120K	1%	1/4W	
R1835	1-215-437-00	METAL	4.7K	1%	1/4W	
R1836	1-215-437-00	METAL	4.7K	1%	1/4W	
R1837	1-215-421-00	METAL	1K	1%	1/4W	
R1838	1-249-431-11	CARBON	15K	5%	1/4W	
R1839	1-249-431-11	CARBON	15K	5%	1/4W	
R1858	1-215-445-00	METAL	10K	1%	1/4W	
R1859	1-215-445-00	METAL	10K	1%	1/4W	
R1860	1-215-397-00	METAL	100	1%	1/4W	
R1861	1-215-453-00	METAL	22K	1%	1/4W	
R1862	1-215-453-00	METAL	22K	1%	1/4W	
R1863	1-215-397-00	METAL	100	1%	1/4W	
R1864	1-215-437-00	METAL	4.7K	1%	1/4W	
R1865	1-215-453-00	METAL	22K	1%	1/4W	
R1866	1-215-453-00	METAL	22K	1%	1/4W	
R1867	1-215-437-00	METAL	4.7K	1%	1/4W	
R1868	1-215-439-00	METAL	5.6K	1%	1/4W	
R1869	1-215-445-00	METAL	10K	1%	1/4W	
R1870	1-215-445-00	METAL	10K	1%	1/4W	
R1871	1-215-445-00	METAL	10K	1%	1/4W	
R1872	1-215-437-00	METAL	4.7K	1%	1/4W	
R1873	1-215-437-00	METAL	4.7K	1%	1/4W	
R1874	1-215-437-00	METAL	4.7K	1%	1/4W	
R1875	1-215-437-00	METAL	4.7K	1%	1/4W	
R1876	1-215-437-00	METAL	4.7K	1%	1/4W	
R1877	1-215-437-00	METAL	4.7K	1%	1/4W	
R1878	1-215-475-00	METAL	180K	1%	1/4W	
R1879	1-215-475-00	METAL	180K	1%	1/4W	
R1880	1-215-475-00	METAL	180K	1%	1/4W	
R1881	1-215-461-00	METAL	47K	1%	1/4W	
R1882	1-215-445-00	METAL	10K	1%	1/4W	
R1883	1-215-453-00	METAL	22K	1%	1/4W	
R1884	1-215-397-00	METAL	100	1%	1/4W	
R1885	1-215-445-00	METAL	10K	1%	1/4W	
R1886	1-215-445-00	METAL	10K	1%	1/4W	
R1887	1-215-397-00	METAL	100	1%	1/4W	
R1888	1-215-461-00	METAL	47K	1%	1/4W	
R1889	1-215-457-00	METAL	33K	1%	1/4W	
R1890	1-215-457-00	METAL	33K	1%	1/4W	
R1891	1-215-443-00	METAL	8.2K	1%	1/4W	
R1892	1-215-445-00	METAL	10K	1%	1/4W	
R1894	1-215-429-00	METAL	2.2K	1%	1/4W	
R1895	1-215-445-00	METAL	10K	1%	1/4W	
R1896	1-215-445-00	METAL	10K	1%	1/4W	
R1897	1-215-449-00	METAL	15K	1%	1/4W	
R1898	1-215-445-00	METAL	10K	1%	1/4W	
R1899	1-215-421-00	METAL	1K	1%	1/4W	
R1900	1-215-429-00	METAL	2.2K	1%	1/4W	
R1901	1-215-449-00	METAL	15K	1%	1/4W	
R1902	1-215-445-00	METAL	10K	1%	1/4W	
R1903	1-215-445-00	METAL	10K	1%	1/4W	
R1904	1-215-445-00	METAL	10K	1%	1/4W	
R1905	1-215-445-00	METAL	10K	1%	1/4W	
R1906	1-215-429-00	METAL	2.2K	1%	1/4W	
R1907	1-215-445-00	METAL	10K	1%	1/4W	
R1908	1-215-445-00	METAL	10K	1%	1/4W	
R1909	1-215-445-00	METAL	10K	1%	1/4W	
R1910	1-215-445-00	METAL	10K	1%	1/4W	
R1911	1-215-453-00	METAL	22K	1%	1/4W	
R1916	1-215-423-00	METAL	1.2K	1%	1/4W	
R1920	1-215-453-00	METAL	22K	1%	1/4W	
R1921	1-215-445-00	METAL	10K	1%	1/4W	
R1922	1-215-445-00	METAL	10K	1%	1/4W	
R1924	1-215-429-00	METAL	2.2K	1%	1/4W	
R1925	1-215-429-00	METAL	2.2K	1%	1/4W	
R1926	1-215-429-00	METAL	2.2K	1%	1/4W	
R1927	1-215-445-00	METAL	10K	1%	1/4W	
R1928	1-215-421-00	METAL	1K	1%	1/4W	
R1929	1-215-445-00	METAL	10K	1%	1/4W	
R1930	1-215-397-00	METAL	100	1%	1/4W	
R1931	1-215-397-00	METAL	100	1%	1/4W	
R1932	1-215-453-00	METAL	22K	1%	1/4W	
R1933	1-215-453-00	METAL	22K	1%	1/4W	
R1934	1-215-429-00	METAL	2.2K	1%	1/4W	
R1937	1-215-445-00	METAL	10K	1%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV901	1-241-631-11	RES, ADJ, CARBON 22K	
RV902	1-241-631-11	RES, ADJ, CARBON 22K	
RV903	1-241-631-11	RES, ADJ, CARBON 22K	
RV904	1-241-631-11	RES, ADJ, CARBON 22K	
RV905	1-241-631-11	RES, ADJ, CARBON 22K	
RV906	1-241-631-11	RES, ADJ, CARBON 22K	
RV907	1-241-631-11	RES, ADJ, CARBON 22K	
RV908	1-241-631-11	RES, ADJ, CARBON 22K	
RV909	1-241-631-11	RES, ADJ, CARBON 22K	
RV910	1-241-631-11	RES, ADJ, CARBON 22K	
RV911	1-241-627-11	RES, ADJ, CARBON 1K	
RV912	1-241-631-11	RES, ADJ, CARBON 22K	
RV913	1-238-023-11	RES, ADJ, CARBON 470K	
RV914	1-241-630-11	RES, ADJ, CARBON 10K	
RV915	1-241-630-11	RES, ADJ, CARBON 10K	
RV916	1-241-631-11	RES, ADJ, CARBON 22K	
RV917	1-241-631-11	RES, ADJ, CARBON 22K	
RV918	1-241-631-11	RES, ADJ, CARBON 22K	
RV919	1-241-631-11	RES, ADJ, CARBON 22K	
RV920	1-241-631-11	RES, ADJ, CARBON 22K	
RV921	1-241-631-11	RES, ADJ, CARBON 22K	
RV922	1-241-631-11	RES, ADJ, CARBON 22K	
RV923	1-241-631-11	RES, ADJ, CARBON 22K	
RV924	1-241-631-11	RES, ADJ, CARBON 22K	
RV925	1-241-631-11	RES, ADJ, CARBON 22K	
RV926	1-241-631-11	RES, ADJ, CARBON 22K	
RV927	1-241-631-11	RES, ADJ, CARBON 22K	
RV928	1-241-630-11	RES, ADJ, CARBON 10K	
RV929	1-241-631-11	RES, ADJ, CARBON 22K	
RV930	1-241-630-11	RES, ADJ, CARBON 10K	
RV931	1-241-631-11	RES, ADJ, CARBON 22K	
RV932	1-241-631-11	RES, ADJ, CARBON 22K	
RV933	1-241-631-11	RES, ADJ, CARBON 22K	
RV934	1-241-631-11	RES, ADJ, CARBON 22K	
RV935	1-241-631-11	RES, ADJ, CARBON 22K	
RV936	1-241-631-11	RES, ADJ, CARBON 22K	
RV937	1-241-630-11	RES, ADJ, CARBON 10K	
RV938	1-241-630-11	RES, ADJ, CARBON 10K	
RV939	1-241-630-11	RES, ADJ, CARBON 10K	
RV940	1-241-631-11	RES, ADJ, CARBON 22K	
RV941	1-241-631-11	RES, ADJ, CARBON 22K	
RV942	1-241-631-11	RES, ADJ, CARBON 22K	
RV943	1-241-631-11	RES, ADJ, CARBON 22K	
RV944	1-241-631-11	RES, ADJ, CARBON 22K	
RV945	1-241-631-11	RES, ADJ, CARBON 22K	
RV946	1-241-631-11	RES, ADJ, CARBON 22K	
RV947	1-241-631-11	RES, ADJ, CARBON 22K	
RV948	1-241-631-11	RES, ADJ, CARBON 22K	

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV949	1-241-631-11	RES, ADJ, CARBON 22K	
RV950	1-241-631-11	RES, ADJ, CARBON 22K	
RV951	1-241-631-11	RES, ADJ, CARBON 22K	
RV952	1-241-631-11	RES, ADJ, CARBON 22K	
RV953	1-241-631-11	RES, ADJ, CARBON 22K	
RV954	1-241-631-11	RES, ADJ, CARBON 22K	
RV956	1-241-631-11	RES, ADJ, CARBON 22K	
RV957	1-241-631-11	RES, ADJ, CARBON 22K	
RV958	1-241-631-11	RES, ADJ, CARBON 22K	
RV959	1-241-631-11	RES, ADJ, CARBON 22K	
RV960	1-241-630-11	RES, ADJ, CARBON 10K	
RV961	1-241-631-11	RES, ADJ, CARBON 22K	
RV962	1-241-631-11	RES, ADJ, CARBON 22K	
RV963	1-241-631-11	RES, ADJ, CARBON 22K	
RV964	1-241-631-11	RES, ADJ, CARBON 22K	
RV965	1-241-631-11	RES, ADJ, CARBON 22K	
RV966	1-241-631-11	RES, ADJ, CARBON 22K	
RV967	1-241-631-11	RES, ADJ, CARBON 22K	
RV968	1-241-631-11	RES, ADJ, CARBON 22K	
RV969	1-241-631-11	RES, ADJ, CARBON 22K	
RV970	1-241-631-11	RES, ADJ, CARBON 22K	
RV971	1-241-631-11	RES, ADJ, CARBON 22K	
RV972	1-241-631-11	RES, ADJ, CARBON 22K	
RV973	1-241-631-11	RES, ADJ, CARBON 22K	
RV974	1-241-631-11	RES, ADJ, CARBON 22K	
RV975	1-241-631-11	RES, ADJ, CARBON 22K	
RV976	1-241-631-11	RES, ADJ, CARBON 22K	
RV977	1-241-631-11	RES, ADJ, CARBON 22K	
RV978	1-241-631-11	RES, ADJ, CARBON 22K	
RV979	1-241-631-11	RES, ADJ, CARBON 22K	
RV980	1-238-019-11	RES, ADJ, CARBON 47K	
RV981	1-241-631-11	RES, ADJ, CARBON 22K	
RV982	1-241-631-11	RES, ADJ, CARBON 22K	

****

*1-644-278-11 DS BOARD
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1745	1-126-101-11	ELECT	100MF	20%	16V	
C1746	1-126-101-11	ELECT	100MF	20%	16V	
C1747	1-126-101-11	ELECT	100MF	20%	16V	
C1748	1-126-101-11	ELECT	100MF	20%	16V	
C1750	1-124-916-11	ELECT	22MF	20%	25V	
C1751	1-126-101-11	ELECT	100MF	20%	16V	
C1752	1-124-916-11	ELECT	22MF	20%	25V	
C1753	1-124-916-11	ELECT	22MF	20%	25V	
C1851	1-102-074-00	CERAMIC	0.001MF	10%	50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
DS6	1-691-182-11	CONNECTOR (BOARD TO BOARD) 12P	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1711	8-759-111-69	IC UPC1037HA	
IC1712	8-759-602-19	IC M5220L	
IC1713	8-759-111-69	IC UPC1037HA	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1840	1-215-445-00	METAL	10K	1%	1/4W	
R1841	1-215-433-00	METAL	3.3K	1%	1/4W	
R1842	1-215-465-00	METAL	68K	1%	1/4W	
R1843	1-215-421-00	METAL	1K	1%	1/4W	
R1844	1-215-455-00	METAL	27K	1%	1/4W	
R1845	1-215-455-00	METAL	27K	1%	1/4W	
R1846	1-215-421-00	METAL	1K	1%	1/4W	
R1850	1-215-461-00	METAL	47K	1%	1/4W	
R1851	1-215-461-00	METAL	47K	1%	1/4W	
R1852	1-215-429-00	METAL	2.2K	1%	1/4W	
R1853	1-215-397-00	METAL	100	1%	1/4W	
R1854	1-215-429-00	METAL	2.2K	1%	1/4W	
R1855	1-215-397-00	METAL	100	1%	1/4W	
R1940	1-215-445-00	METAL	10K	1%	1/4W	
R1941	1-215-433-00	METAL	3.3K	1%	1/4W	
R1942	1-215-421-00	METAL	1K	1%	1/4W	
R1943	1-215-465-00	METAL	68K	1%	1/4W	
R1944	1-215-421-00	METAL	1K	1%	1/4W	
R1945	1-215-455-00	METAL	27K	1%	1/4W	
R1946	1-215-455-00	METAL	27K	1%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV983	1-241-630-11	RES, ADJ, CARBON 10K	
RV984	1-241-630-11	RES, ADJ, CARBON 10K	

****

*1-643-591-11 H1 BOARD
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	4-033-777-01	HOLDER, LED	
	*4-374-987-01	GUIDE, LIGHT	
	4-381-686-01	BRACKET (B), LIGHT GUIDE	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1601	1-124-907-11	ELECT	10MF	20%	50V	
C1602	1-124-907-11	ELECT	10MF	20%	50V	
C1603	1-124-907-11	ELECT	10MF	20%	50V	
C1604	1-124-261-00	ELECT	10MF	20%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1601	8-719-812-41	DIODE TLR124	
D1602	8-719-812-41	DIODE TLR124	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
H11	*1-564-526-11	PLUG, CONNECTOR 11P	
H15	*1-564-517-11	PLUG, CONNECTOR 2P	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1601	8-741-148-33	IC SBX1483-59	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1601	1-249-430-11	CARBON	12K	5%	1/4W	
R1602	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1603	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1604	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1606	1-249-405-11	CARBON	100	5%	1/4W	
R1607	1-249-405-11	CARBON	100	5%	1/4W	
R1608	1-249-411-11	CARBON	330	5%	1/4W	
R1609	1-249-411-11	CARBON	330	5%	1/4W	

H1 **H2** **ZR** **ZG** **ZB**

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<SWITCH>				
S1601	1-554-303-21	SWITCH, TACTIL				
S1602	1-554-303-21	SWITCH, TACTIL				
S1603	1-554-303-21	SWITCH, TACTIL				
S1604	1-554-303-21	SWITCH, TACTIL				
S1605	1-554-303-21	SWITCH, TACTIL				
S1606⚠	1-571-733-21	SWITCH, TACTIL				

****

*1-643-592-11 H2 BOARD
****

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<CAPACITOR>				
C1651	1-124-477-11	ELECT	47MF	20%	16V	
C1655	1-124-927-11	ELECT	4.7MF	20%	50V	
		<DIODE>				
D1651	8-719-908-03	DIODE GP08D				
D1652	8-719-908-03	DIODE GP08D				
D1653	8-719-108-12	DIODE RD9.1EW				
D1654	8-719-108-12	DIODE RD9.1EW				
D1655	8-719-108-12	DIODE RD9.1EW				
D1659	8-719-911-19	DIODE 1SS119				
D1660	8-719-110-88	DIODE RD39ESB2				
D1661	8-719-110-88	DIODE RD39ESB2				
D1662	8-719-110-88	DIODE RD39ESB2				
D1663	8-719-110-88	DIODE RD39ESB2				
		<CONNECTOR>				
H22	*1-564-519-11	PLUG, CONNECTOR 4P				
H25	*1-564-517-11	PLUG, CONNECTOR 2P				
H26	*1-564-519-11	PLUG, CONNECTOR 4P				
H28	*1-564-518-11	PLUG, CONNECTOR 3P				
H211	*1-564-517-11	PLUG, CONNECTOR 2P				
H216	*1-564-525-11	PLUG, CONNECTOR 10P				
H225	*1-564-518-11	PLUG, CONNECTOR 3P				
		<JACK>				
J1651	1-695-817-11	JACK BLOCK, PIN 3P				
		<TRANSISTOR>				
Q1651	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1652	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q1653	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R1651	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1652	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1653	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1654	1-249-430-11	CARBON	12K	5%	1/4W	
R1655	1-249-417-11	CARBON	1K	5%	1/4W	
R1656	1-249-417-11	CARBON	1K	5%	1/4W	
R1657	1-249-436-11	CARBON	39K	5%	1/4W	
R1658	1-249-437-11	CARBON	47K	5%	1/4W	
R1659	1-249-437-11	CARBON	47K	5%	1/4W	
		<RELAY>				
RY1651	1-515-586-11	RELAY (DS-2)				
RY1652	1-515-586-11	RELAY (DS-2)				
		<SWITCH>				
S1651	1-554-303-21	SWITCH, TACTIL				
S1652	1-554-303-21	SWITCH, TACTIL				
S1653	1-554-303-21	SWITCH, TACTIL				
S1654	1-554-303-21	SWITCH, TACTIL				
S1655	1-554-303-21	SWITCH, TACTIL				

****

*A-1390-340-A ZR BOARD, COMPLETE
****

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<CAPACITOR>				
C1901	1-162-115-00	CERAMIC	330PF	10%	2KV	
C1902	1-162-115-00	CERAMIC	330PF	10%	2KV	
		<RESISTOR>				
R1901	1-202-818-00	SOLID	1K	20%	1/2W	
R1902	1-202-818-00	SOLID	1K	20%	1/2W	
R1903	1-249-414-11	CARBON	560	5%	1/4W	
R1904	1-249-414-11	CARBON	560	5%	1/4W	
		<CONNECTOR>				
ZR2	*1-564-518-11	PLUG, CONNECTOR 3P				
ZR18	*1-691-292-11	PIN, CONNECTOR (PC BOARD) 3P				
ZR-1	*1-564-522-11	PLUG, CONNECTOR 7P				

****

*A-1390-346-A ZG BOARD, COMPLETE
****

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<CAPACITOR>				
C1911	1-162-115-00	CERAMIC	330PF	10%	2KV	
C1912	1-162-115-00	CERAMIC	330PF	10%	2KV	
		<RESISTOR>				
R1911	1-202-818-00	SOLID	1K	20%	1/2W	
R1912	1-202-818-00	SOLID	1K	20%	1/2W	
R1913	1-249-414-11	CARBON	560	5%	1/4W	
R1914	1-249-414-11	CARBON	560	5%	1/4W	
		<CONNECTOR>				
ZG19	*1-691-292-11	PIN, CONNECTOR (PC BOARD) 3P				
ZG-2	*1-564-523-11	PLUG, CONNECTOR 8P				

****

*A-1390-347-A ZB BOARD, COMPLETE
****

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<CAPACITOR>				
C1921	1-162-115-00	CERAMIC	330PF	10%	2KV	
C1922	1-162-115-00	CERAMIC	330PF	10%	2KV	

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
R1921	1-202-818-00	SOLID	1K	20%	1/2W
R1922	1-202-818-00	SOLID	1K	20%	1/2W
R1923	1-249-414-11	CARBON	560	5%	1/4W
R1924	1-249-414-11	CARBON	560	5%	1/4W

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
ZB20	*1-691-292-11	PIN, CONNECTOR (PC BOARD) 3P
ZB-3	*1-564-524-11	PLUG, CONNECTOR 9P

****

*A-1390-351-A N BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C801	1-125-489-00	ELECT(BLOCK)	560MF	20%	200V
C802	1-123-024-21	ELECT	33MF		160V
C803	1-136-729-11	FILM	1.5MF	5%	400V
C804	1-106-383-00	MYLAR	0.047MF		200V
C805	1-102-030-00	CERAMIC	330PF	10%	500V
C806	1-130-495-00	MYLAR	0.1MF	5%	50V
C807	1-123-875-11	ELECT	10MF	20%	50V
C808	1-126-183-11	ELECT	1000MF	20%	16V
C809	1-124-903-11	ELECT	1MF	20%	50V
C810	1-124-903-11	ELECT	1MF	20%	50V
C811	1-124-902-00	ELECT	0.47MF	20%	50V
C812	1-102-973-00	CERAMIC	100PF	5%	50V
C813	1-102-244-00	CERAMIC	220PF	10%	500V
C814	1-106-391-12	MYLAR	0.1MF	10%	200V
C815	1-106-367-00	MYLAR	0.01MF	10%	200V
C816	1-124-907-11	ELECT	10MF	20%	50V
C817	1-124-119-00	ELECT	330MF	20%	16V
C818	1-102-824-00	CERAMIC	470PF	5%	50V
C819	1-124-907-11	ELECT	10MF	20%	50V
C820	1-124-907-11	ELECT	10MF	20%	50V
C821	1-124-907-11	ELECT	10MF	20%	50V
C822	1-124-034-51	ELECT	33MF	20%	16V
C823	1-124-907-11	ELECT	10MF	20%	50V
C824	1-124-034-51	ELECT	33MF	20%	16V
C825	1-124-034-51	ELECT	33MF	20%	16V
C826	1-124-907-11	ELECT	10MF	20%	50V
C827	1-124-907-11	ELECT	10MF	20%	50V
C828	1-124-907-11	ELECT	10MF	20%	50V
C829	1-124-034-51	ELECT	33MF	20%	16V
C830	1-124-907-11	ELECT	10MF	20%	50V
C831	1-106-220-00	MYLAR	0.1MF	10%	100V
C832	1-124-907-11	ELECT	10MF	20%	50V
C833	1-124-916-11	ELECT	22MF	20%	50V
C834	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C835	1-124-927-11	ELECT	4.7MF	20%	50V
C836	1-130-475-00	MYLAR	0.0022MF	5%	50V
C837	1-136-169-00	FILM	0.22MF	5%	50V
C838	1-130-475-00	MYLAR	0.0022MF	5%	50V
C839	1-102-106-00	CERAMIC	100PF	10%	50V
C840 ⚠	1-136-807-11	FILM	0.018MF	3%	1.6KV
C841	1-136-729-11	FILM	1.5MF	5%	400V
C842	1-130-471-00	MYLAR	0.001MF	5%	50V
C844	1-106-391-12	MYLAR	0.1MF	10%	200V
C850	1-136-169-00	FILM	0 22MF	5%	50V
C851	1-124-907-11	ELECT	10MF	20%	50V
C852	1-124-907-11	ELECT	10MF	20%	50V
C853	1-106-220-00	MYLAR	0.1MF	10%	100V
C854	1-126-329-11	ELECT	470MF	20%	50V
C855	1-124-514-11	ELECT	100MF	20%	50V
C856	1-162-114-00	CERAMIC	0.0047MF		2KV
C858	1-124-119-00	ELECT	330MF	20%	16V
C888	1-124-903-11	ELECT	1MF	20%	50V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D801	8-719-928-08	DIODE ERD28-08S
D802	8-719-300-80	DIODE RU-1C
D803	8-719-109-85	DIODE RD5.1ESB2
D804	8-719-911-19	DIODE 1SS119
D805	8-719-911-19	DIODE 1SS119
D806	8-719-109-85	DIODE RD5.1ESB2
D807	8-719-109-85	DIODE RD5.1ESB2
D808	8-719-911-19	DIODE 1SS119
D809	8-719-911-19	DIODE 1SS119
D810	8-719-911-19	DIODE 1SS119
D811	8-719-109-85	DIODE RD5.1ESB2
D812	8-719-911-19	DIODE 1SS119
D813	8-719-911-19	DIODE 1SS119
D814	8-719-911-19	DIODE 1SS119
D815	8-719-110-36	DIODE RD13ESB2
D817	8-719-945-80	DIODE ERC06-15S
D818	8-719-911-19	DIODE 1SS119
D820	8-719-911-19	DIODE 1SS119
D850	8-719-109-71	DIODE RD3.9ESB1
D851 ⚠	8-719-903-03	DIODE V30N
D852	8-719-911-19	DIODE 1SS119
D853 ⚠	8-719-903-03	DIODE V30N
D891	8-719-110-49	DIODE RD18ESB2
D892	8-719-110-49	DIODE RD18ESB2

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC801	8-759-231-58	IC TA7812S
IC802	8-759-103-93	IC UPC393C
IC803	8-759-100-82	IC UPC4082C
IC804	8-759-103-93	IC UPC393C
IC805	8-759-100-75	IC UPC1394C

<COIL>

REF.NO.	PART NO.	DESCRIPTION	
L801	1-459-862-11	COIL, CHOKE	90UH
L802	1-424-603-11	COIL, CHOKE	1.05MMH
L803	1-459-313-00	COIL WITH CORE	(HWC)
L804	1-410-482-31	INDUCTOR	100UH
L805 ⚠	1-424-603-11	COIL, CHOKE	1.05MMH

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
N-1	1-506-348-XX	PIN, CONNECTOR 3P
N-2	*1-564-508-11	PLUG, CONNECTOR 5P
N-3	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P
N-4	*1-564-507-11	PLUG, CONNECTOR 4P
N-5	*1-564-508-11	PLUG, CONNECTOR 5P
N-6	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
N-7	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P
N-8	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P
N-9	1-506-348-XX	PIN, CONNECTOR 3P
N-10	*1-564-511-11	PLUG, CONNECTOR 8P
N-20	*1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P
N-21	*1-560-123-00	PLUG, CONNECTOR (2 5MM) 3P
N-30	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P

N

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation Should replacement be required, replace only with the value originally used

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety Replace only with part number specified

REF.NO.	PART NO.	DESCRIPTION				REMARK
N-851	*1-506-371-00	PIN, CONNECTOR 2P				
N-853	*1-506-371-00	PIN, CONNECTOR 2P				

<NEON LAMP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
NL801	1-519-108-XX	LAMP, NEON	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q801 ⚠	8-729-231-63	TRANSISTOR 2SC2555-1	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q801	
	4-383-023-01	SPACER, MICA; Q801	
Q802	8-729-119-80	TRANSISTOR 2SC2688-LK	
	4-039-042-01	SPACER, INSULATING; Q802	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q802	
Q803	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q804	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q805	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q806	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q807	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q808	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q809	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q811 ⚠	8-729-805-07	TRANSISTOR 2SD1887-CA	
	4-382-854-11	SCREW (M3X10), P, SW (+); Q811	
Q812	8-729-804-48	TRANSISTOR 2SC3675-CB	
Q820	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q851	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q852	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q853	8-729-820-98	TRANSISTOR 2SC4256CB	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R801 ⚠	1-216-378-91	METAL OXIDE	5.6	5%	2W	F
R802 ⚠	1-215-926-91	METAL OXIDE	33K	5%	3W	F
R803 ⚠	1-215-926-91	METAL OXIDE	33K	5%	3W	F
R804	1-249-429-11	CARBON	10K	5%	1/4W	
R805	1-249-423-11	CARBON	3.3K	5%	1/4W	
R806	1-249-425-11	CARBON	4.7K	5%	1/4W	
R807	1-249-441-11	CARBON	100K	5%	1/4W	
R808	1-249-417-11	CARBON	1K	5%	1/4W	
R809	1-249-417-11	CARBON	1K	5%	1/4W	
R810	1-249-441-11	CARBON	100K	5%	1/4W	
R811	1-249-421-11	CARBON	2.2K	5%	1/4W	
R812	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R813 ⚠	1-215-921-91	METAL OXIDE	4.7K	5%	3W	F
R814	1-249-409-11	CARBON	220	5%	1/4W	
R815	1-249-415-11	CARBON	680	5%	1/4W	
R816	1-214-777-00	METAL	100K	1%	1/4W	
R817	1-215-471-00	METAL	120K	1%	1/4W	
R818	1-215-471-00	METAL	120K	1%	1/4W	
R819	1-215-450-00	METAL	16K	1%	1/4W	
R820	1-215-451-00	METAL	18K	1%	1/4W	
R821	1-249-423-11	CARBON	3.3K	5%	1/4W	
R822	1-249-433-11	CARBON	22K	5%	1/4W	
R823	1-249-429-11	CARBON	10K	5%	1/4W	
R824	1-215-469-00	METAL	100K	1%	1/4W	
R825	1-215-453-00	METAL	22K	1%	1/4W	
R826	1-214-962-00	METAL	820K	1%	1/4W	
R827	1-214-764-00	METAL	30K	1%	1/4W	
R828	1-215-455-00	METAL	27K	1%	1/4W	
R829	1-215-455-00	METAL	27K	1%	1/4W	
R830 ⚠	1-215-928-91	METAL OXIDE	68K	5%	3W	F
R831 ⚠	1-215-928-91	METAL OXIDE	68K	5%	3W	F
R832	1-249-417-11	CARBON	1K	5%	1/4W	
R833	1-249-419-11	CARBON	1.5K	5%	1/4W	
R834	1-249-419-11	CARBON	1.5K	5%	1/4W	
R835	1-215-429-00	METAL	2.2K	1%	1/4W	
R836	1-215-435-00	METAL	3.9K	1%	1/4W	
R837	1-249-433-11	CARBON	22K	5%	1/4W	
R838	1-249-435-11	CARBON	33K	5%	1/4W	
R839	1-249-438-11	CARBON	56K	5%	1/4W	
R840	1-249-434-11	CARBON	27K	5%	1/4W	
R841	1-249-429-11	CARBON	10K	5%	1/4W	
R842	1-249-435-11	CARBON	33K	5%	1/4W	
R843	1-249-423-11	CARBON	3.3K	5%	1/4W	
R844	1-249-433-11	CARBON	22K	5%	1/4W	
R845	1-249-435-11	CARBON	33K	5%	1/4W	
R846	1-249-429-11	CARBON	10K	5%	1/4W	
R847	1-214-761-00	METAL	22K	1%	1/4W	
R848	1-215-429-00	METAL	2.2K	1%	1/4W	
R849	1-215-421-00	METAL	1K	1%	1/4W	
R850	1-215-429-00	METAL	2.2K	1%	1/4W	
R851	1-215-404-00	METAL	200	1%	1/4W	
⧓R852 ⚠	[illegible]	METAL	[illegible]	[illegible]	1/4W	
R853	1-215-469-00	METAL	100K	1%	1/4W	
R854	1-249-430-11	CARBON	12K	5%	1/4W	
R855	1-215-469-00	METAL	100K	1%	1/4W	
R856	1-249-430-11	CARBON	12K	5%	1/4W	
R857	1-249-433-11	CARBON	22K	5%	1/4W	
R858	1-249-413-11	CARBON	470	5%	1/4W	
R859	1-249-435-11	CARBON	33K	5%	1/4W	
R860	1-249-441-11	CARBON	100K	5%	1/4W	
R861	1-249-421-11	CARBON	2.2K	5%	1/4W	
R862	1-249-434-11	CARBON	27K	5%	1/4W	
R863	1-249-431-11	CARBON	15K	5%	1/4W	
R864	1-249-423-11	CARBON	3.3K	5%	1/4W	
R865	1-249-440-11	CARBON	82K	5%	1/4W	
R866	1-249-436-11	CARBON	39K	5%	1/4W	
R867	1-249-437-11	CARBON	47K	5%	1/4W	
R868	1-249-428-11	CARBON	8.2K	5%	1/4W	
R869	1-249-429-11	CARBON	10K	5%	1/4W	
R870	1-249-417-11	CARBON	1K	5%	1/4W	
R871	1-249-440-11	CARBON	82K	5%	1/4W	
R872	1-249-423-11	CARBON	3.3K	5%	1/4W	
R873	1-249-441-11	CARBON	100K	5%	1/4W	
R874	1-249-435-11	CARBON	33K	5%	1/4W	
R875	1-249-421-11	CARBON	2.2K	5%	1/4W	
R876	1-215-426-00	METAL	1.6K	1%	1/4W	
R877	1-249-435-11	CARBON	33K	5%	1/4W	
R878	1-249-441-11	CARBON	100K	5%	1/4W	
R879 ⚠	1-216-489-91	METAL OXIDE	27K	5%	3W	F
R880	1-249-429-11	CARBON	10K	5%	1/4W	
R881	1-214-761-00	METAL	22K	1%	1/4W	
R882	1-249-433-11	CARBON	22K	5%	1/4W	
R883	1-249-417-11	CARBON	1K	5%	1/4W	
R884 ⚠	1-215-894-91	METAL OXIDE	2.2K	5%	2W	F
R885	1-249-438-11	CARBON	56K	5%	1/4W	
R886	1-249-414-11	CARBON	560	5%	1/4W	
R887	1-215-397-00	METAL	100	1%	1/4W	
R888	1-249-410-11	CARBON	270	5%	1/4W	
R889	1-249-417-11	CARBON	1K	5%	1/4W	
R890	1-249-417-11	CARBON	1K	5%	1/4W	
R891 ⚠	1-216-489-91	METAL OXIDE	27K	5%	3W	F
R892	1-249-417-11	CARBON	1K	5%	1/4W	F
R893	1-215-453-00	METAL	22K	1%	1/4W	
R894	1-249-401-11	CARBON	47	5%	1/4W	
R895	1-202-731-00	SOLID	10M	20%	1/2W	

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie.

N U

REF.NO.	PART NO.	DESCRIPTION	REMARK
R896	1-260-111-11	CARBON 10K 5% 1/2W	
R897	1-247-881-00	CARBON 120K 5% 1/4W	
R898	1-202-730-00	SOLID 8.2M 20% 1/2W	
R899	1-249-429-11	CARBON 10K 5% 1/4W	
R903	1-247-735-11	SOLID 47 20% 1/2W	
R904 ⚠	1-215-928-11	METAL OXIDE 68K 5% 3W	F
R905 ⚠	1-215-911-11	METAL OXIDE 100 5% 3W	F

<SPARK GAP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
SG801	1-519-422-11	GAP, SPARK	

<TRANSFOMER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
T801 ⚠	1-437-078-11	TRANSFORMER, HORIZONTAL DRIVE	
T802	1-437-090-00	HDT	
T803 ⚠	1-453-121-11	TRANSFORMER ASSY, FLYBACK (NX-2830D4)	

****

*A-1394-420-A U BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C1004	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
C1005	1-126-301-11	ELECT 1MF 20% 50V	
C1006	1-164-096-11	CERAMIC 0.01MF 50V	
C1007	1-124-598-11	ELECT 22MF 20% 25V	
C1008	1-124-598-11	ELECT 22MF 20% 25V	
C1010	1-124-465-00	ELECT 0.47MF 20% 50V	
C1011	1-124-465-00	ELECT 0.47MF 20% 50V	
C1012	1-124-465-00	ELECT 0.47MF 20% 50V	
C1013	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
C1014	1-126-163-11	ELECT 4.7MF 20% 50V	
C1016	1-126-163-11	ELECT 4.7MF 20% 50V	
C1018	1-126-301-11	ELECT 1MF 20% 50V	
C1020	1-124-242-00	ELECT 33MF 20% 25V	
C1021	1-124-465-00	ELECT 0.47MF 20% 50V	
C1022	1-124-242-00	ELECT 33MF 20% 25V	
C1026	1-102-949-00	CERAMIC 12PF 5% 50V	
C1027	1-102-949-00	CERAMIC 12PF 5% 50V	
C1028	1-124-242-00	ELECT 33MF 20% 25V	
C1029	1-124-282-00	ELECT 22MF 20% 16V	
C1030	1-124-478-11	ELECT 100MF 20% 25V	
C1031	1-102-963-00	CERAMIC 33PF 5% 50V	
C1033	1-124-598-11	ELECT 22MF 20% 25V	
C1034	1-124-282-00	ELECT 22MF 20% 16V	
C1036	1-124-282-00	ELECT 22MF 20% 16V	
C1037	1-124-282-00	ELECT 22MF 20% 16V	
C1039	1-124-478-11	ELECT 100MF 20% 25V	
C1047	1-124-465-00	ELECT 0.47MF 20% 50V	
C1048	1-126-301-11	ELECT 1MF 20% 50V	
C1049	1-124-598-11	ELECT 22MF 20% 25V	
C1051	1-124-465-00	ELECT 0.47MF 20% 50V	
C1055	1-124-589-11	ELECT 47MF 20% 16V	
C1056	1-124-499-11	ELECT 1MF 20% 50V	
C1057	1-124-768-11	ELECT 4.7MF 20% 50V	
C1059	1-124-499-11	ELECT 1MF 20% 50V	
C1060	1-124-499-11	ELECT 1MF 20% 50V	
C1061	1-124-499-11	ELECT 1MF 20% 50V	
C1062	1-102-129-00	CERAMIC 0.01MF 10% 50V	
C1063	1-124-768-11	ELECT 4.7MF 20% 50V	
C1066	1-126-101-11	ELECT 100MF 20% 16V	

<FILTER BLOCK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CM1002	1-466-162-31	BLOCK, COM FILTER (CFB-4)	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1005	8-719-110-36	DIODE RD13ESB2	
D1009	8-719-110-36	DIODE RD13ESB2	
D1010	8-719-110-36	DIODE RD13ESB2	
D1011	8-719-110-36	DIODE RD13ESB2	
D1012	8-719-110-36	DIODE RD13ESB2	
D1013	8-719-110-36	DIODE RD13ESB2	
D1017	8-719-110-36	DIODE RD13ESB2	
D1018	8-719-110-36	DIODE RD13ESB2	
D1019	8-719-110-36	DIODE RD13ESB2	
D1020	8-719-109-66	DIODE RD3.3ESB2	
D1021	8-719-109-66	DIODE RD3.3ESB2	
D1022	8-719-109-66	DIODE RD3.3ESB2	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1002	8-752-056-50	IC CXA1545S	
IC1011	8-759-145-57	IC UPC4557C	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L1001	1-408-422-00	INDUCTOR 120UH	
L1002	1-408-422-00	INDUCTOR 120UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1009	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1010	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1016	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1017	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1018	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q1019	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1020	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1021	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1022	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q1023	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1029	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1030	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1031	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1032	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1033	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1034	8-729-119-76	TRANSISTOR 2SA1175-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1011	1-249-435-11	CARBON 33K 5% 1/4W	
R1012	1-249-434-11	CARBON 27K 5% 1/4W	
R1013	1-249-417-11	CARBON 1K 5% 1/4W	
R1014	1-249-441-11	CARBON 100K 5% 1/4W	
R1015	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1016	1-249-441-11	CARBON 100K 5% 1/4W	
R1017	1-249-405-11	CARBON 100 5% 1/4W	
R1018	1-249-427-11	CARBON 6.8K 5% 1/4W	
R1019	1-249-427-11	CARBON 6.8K 5% 1/4W	
R1023	1-249-405-11	CARBON 100 5% 1/4W	
R1026	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1028	1-249-434-11	CARBON 27K 5% 1/4W	
R1029	1-249-435-11	CARBON 33K 5% 1/4W	

U S

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1030	1-249-417-11	CARBON	1K	5%	1/4W	
R1032	1-249-417-11	CARBON	1K	5%	1/4W	
R1033	1-249-393-11	CARBON	10	5%	1/4W	F
R1034	1-249-417-11	CARBON	1K	5%	1/4W	
R1036	1-247-883-00	CARBON	150K	5%	1/4W	
R1037	1-247-883-00	CARBON	150K	5%	1/4W	
R1038	1-247-883-00	CARBON	150K	5%	1/4W	
R1043	1-249-417-11	CARBON	1K	5%	1/4W	
R1046	1-249-413-11	CARBON	470	5%	1/4W	
R1048	1-249-405-11	CARBON	100	5%	1/4W	
R1050	1-249-405-11	CARBON	100	5%	1/4W	
R1051	1-249-417-11	CARBON	1K	5%	1/4W	
R1052	1-249-413-11	CARBON	470	5%	1/4W	
R1054	1-249-405-11	CARBON	100	5%	1/4W	
R1055	1-249-413-11	CARBON	470	5%	1/4W	
R1056	1-249-405-11	CARBON	100	5%	1/4W	
R1057	1-249-441-11	CARBON	100K	5%	1/4W	
R1059	1-249-405-11	CARBON	100	5%	1/4W	
R1061	1-249-409-11	CARBON	220	5%	1/4W	
R1062	1-249-441-11	CARBON	100K	5%	1/4W	
R1063	1-249-409-11	CARBON	220	5%	1/4W	
R1066	1-215-437-00	METAL	4.7K	1%	1/4W	
R1067	1-215-437-00	METAL	4.7K	1%	1/4W	
R1068	1-215-437-00	METAL	4.7K	1%	1/4W	
R1069	1-215-437-00	METAL	4.7K	1%	1/4W	
R1070	1-249-411-11	CARBON	330	5%	1/4W	
R1071	1-249-431-11	CARBON	15K	5%	1/4W	
R1073	1-249-431-11	CARBON	15K	5%	1/4W	
R1077	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1078	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1079	1-249-405-11	CARBON	100	5%	1/4W	
R1080	1-215-423-00	METAL	1.2K	1%	1/4W	
R1081	1-215-421-00	METAL	1K	1%	1/4W	
R1089	1-249-405-11	CARBON	100	5%	1/4W	
R1094	1-249-405-11	CARBON	100	5%	1/4W	
R1096	1-249-405-11	CARBON	100	5%	1/4W	
R1099	1-249-413-11	CARBON	470	5%	1/4W	
R1110	1-249-405-11	CARBON	100	5%	1/4W	
R1116	1-249-441-11	CARBON	100K	5%	1/4W	
R1118	1-249-413-11	CARBON	470	5%	1/4W	
R1120	1-249-413-11	CARBON	470	5%	1/4W	
R1121	1-249-441-11	CARBON	100K	5%	1/4W	
R1122	1-249-413-11	CARBON	470	5%	1/4W	
R1133	1-249-405-11	CARBON	100	5%	1/4W	
R1134	1-249-405-11	CARBON	100	5%	1/4W	
R1137	1-249-411-11	CARBON	330	5%	1/4W	
R1138	1-249-415-11	CARBON	680	5%	1/4W	
R1139	1-249-413-11	CARBON	470	5%	1/4W	
R1140	1-249-413-11	CARBON	470	5%	1/4W	
R1141	1-249-413-11	CARBON	470	5%	1/4W	
R1142	1-249-415-11	CARBON	680	5%	1/4W	
R1147	1-249-405-11	CARBON	100	5%	1/4W	
R1148	1-249-405-11	CARBON	100	5%	1/4W	
R1149	1-249-417-11	CARBON	1K	5%	1/4W	
R1150	1-249-405-11	CARBON	100	5%	1/4W	
R1151	1-249-405-11	CARBON	100	5%	1/4W	
R1152	1-249-417-11	CARBON	1K	5%	1/4W	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
U-12	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P	
U-13	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P	
U-16	*1-564-513-11	PLUG, CONNECTOR 10P	
U-22	1-566-942-11	CONNECTOR, HINGE (RECEPTACLE) 30P	
U-23	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)	
U-47	*1-564-506-11	PLUG, CONNECTOR 3P	

****

*A-1394-421-A S BOARD, COMPLETE
****

*1-565-514-11 SOCKET, CONNECTOR 2P

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C3403	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C3408	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3409	1-124-477-11	ELECT	47MF	20%	16V	
C3411	1-124-034-51	ELECT	33MF	20%	16V	
C3442	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C3446	1-163-129-00	CERAMIC CHIP	330PF	5%	50V	
C3447	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C3448	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V	
C3449	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V	
C3450	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C3451	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3452	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
C3453	1-124-477-11	ELECT	47MF	20%	16V	
C3454	1-126-162-11	ELECT	3.3MF	20%	50V	
C3455	1-126-163-11	ELECT	4.7MF	20%	16V	
C3456	1-163-129-00	CERAMIC CHIP	330PF	5%	50V	
C3457	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C3459	1-124-477-11	ELECT	47MF	20%	16V	
C3460	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C3461	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C3507	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3508	1-164-005-11	CERAMIC CHIP	0.47MF		25V	
C3509	1-163-139-00	CERAMIC CHIP	820PF	5%	50V	
C3515	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C3540	1-126-157-11	ELECT	10MF	20%	16V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D3444	8-719-404-46	DIODE MA110	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC3401	8-759-403-44	IC MN1280-S	
IC3402	8-759-070-42	IC M37201M6-A18FP	
IC3441	8-759-081-30	IC MC78L05ACPRP	
IC3442	8-759-084-12	IC LA7945	
IC3443	8-759-158-03	IC LC7458A-02	
IC3444	8-759-403-44	IC MN1280-S	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L3401	1-408-421-00	INDUCTOR	100UH	
L3461	1-408-409-00	INDUCTOR	10UH	
L3462	1-408-421-00	INDUCTOR	100UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q3441	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q3444	8-729-903-10	TRANSISTOR FMW1	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R3401	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3402	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3403	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3404	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3405	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3406	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3407	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3408	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3409	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3441	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3442	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R3443	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R3444	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R3445	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R3446	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R3449	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3450	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3451	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R3452	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R3453	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R3454	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3455	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3456	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R3463	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3464	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3465	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3472	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R3473	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3474	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3504	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3509	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3511	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3512	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3513	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3514	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3519	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3520	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3521	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3525	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3526	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3528	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3529	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3530	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3531	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3532	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3535	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3537	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R3540	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S-42	*1-568-378-21	PIN, CONNECTOR 3P	
S-43	*1-564-508-11	PLUG, CONNECTOR 5P	
S-45	*1-564-511-71	PLUG, CONNECTOR 8P	
S-47	*1-564-506-11	PLUG, CONNECTOR 3P	
S-46	*1-564-506-11	PLUG, CONNECTOR 3P	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X3401	1-577-358-21	VIBRATOR, CERAMIC	
X3441	1-577-364-11	VIBRATOR, CERAMIC	

****

*A-1394-432-A UT BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1152	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C1154	1-164-096-11	CERAMIC	0.01MF		50V	
C1155	1-126-103-11	ELECT	470MF	20%	16V	
C1158	1-124-598-11	ELECT	22MF	20%	25V	
C1160	1-124-598-11	ELECT	22MF	20%	25V	
C1161	1-124-598-11	ELECT	22MF	20%	25V	
C1164	1-126-103-11	ELECT	470MF	20%	16V	
C1165	1-126-301-11	ELECT	1MF	20%	50V	
C1166	1-126-301-11	ELECT	1MF	20%	50V	
C1167	1-126-301-11	ELECT	1MF	20%	50V	
C1168	1-126-301-11	ELECT	1MF	20%	50V	
C1199	1-102-129-00	CERAMIC	0.01MF	10%	50V	
C1200	1-102-129-00	CERAMIC	0.01MF	10%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1152	8-719-110-36	DIODE RD13ESB2	
D1158	8-719-110-36	DIODE RD13ESB2	
D1159	8-719-110-36	DIODE RD13ESB2	
D1160	8-719-110-36	DIODE RD13ESB2	
D1163	8-719-110-36	DIODE RD13ESB2	
D1164	8-719-110-36	DIODE RD13ESB2	
D1165	8-719-110-36	DIODE RD13ESB2	
D1166	8-719-110-36	DIODE RD13ESB2	
D1167	8-719-110-36	DIODE RD13ESB2	
D1168	8-719-110-36	DIODE RD13ESB2	
D1169	8-719-110-36	DIODE RD13ESB2	
D1170	8-719-110-36	DIODE RD13ESB2	

<JACK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J1001	1-537-187-11	TERMINAL, PUSH (4P)	
J1003	1-573-970-11	BLOCK, (S) TERMINAL	
J1004	1-695-049-11	BLOCK, (S) TERMINAL	
J1005	1-695-054-11	JACK BLOCK, PIN	
J1006	1-573-970-11	BLOCK, (S) TERMINAL	
J1007	1-573-969-11	JACK BLOCK, PIN	
J1008	1-573-969-11	JACK BLOCK, PIN	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1153	1-249-403-11	CARBON	68	5%	1/4W	
R1164	1-247-895-00	CARBON	470K	5%	1/4W	
R1165	1-247-895-00	CARBON	470K	5%	1/4W	
R1166	1-247-895-00	CARBON	470K	5%	1/4W	
R1167	1-247-895-00	CARBON	470K	5%	1/4W	
R1168	1-247-895-00	CARBON	470K	5%	1/4W	
R1169	1-249-403-11	CARBON	68	5%	1/4W	
R1170	1-249-403-11	CARBON	68	5%	1/4W	
R1171	1-247-895-00	CARBON	470K	5%	1/4W	
R1172	1-247-895-00	CARBON	470K	5%	1/4W	
R1173	1-247-804-11	CARBON	75	5%	1/4W	
R1174	1-247-895-00	CARBON	470K	5%	1/4W	
R1175	1-247-895-00	CARBON	470K	5%	1/4W	
R1176	1-247-804-11	CARBON	75	5%	1/4W	
R1178	1-247-895-00	CARBON	470K	5%	1/4W	
R1179	1-247-895-00	CARBON	470K	5%	1/4W	
R1180	1-247-804-11	CARBON	75	5%	1/4W	
R1181	1-247-804-11	CARBON	75	5%	1/4W	
R1183	1-247-895-00	CARBON	470K	5%	1/4W	

UT

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation Should replacement be required, replace only with the value originally used

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite Ne les remplacer que par une piece portant le numero specifie

The components identified by shading and mark ⚠ are critical for safety Replace only with part number specified

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1184	1-247-895-00	CARBON 470K 5% 1/4W	
R1185	1-247-895-00	CARBON 470K 5% 1/4W	
R1186	1-247-895-00	CARBON 470K 5% 1/4W	
R1188	1-247-804-11	CARBON 75 5% 1/4W	
R1191	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1192	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1193	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1194	1-249-425-11	CARBON 4.7K 5% 1/4W	
R1196	1-249-429-11	CARBON 10K 5% 1/4W	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S1150	1-572-198-11	SWITCH, KEYBOARD	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
UT11	*1-564-519-11	PLUG, CONNECTOR 4P	
UT22	*1-566-941-11	CONNECTOR, HINGE (TAB) 30P	
UT23	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P	
UT35	*1-564-518-11	PLUG, CONNECTOR 3P	

****

MISCELLANEOUS
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	⚠ 1-241-744-11	RESISTOR ASSY (HIGH-VOLTAGE)	
	1-417-178-11	SELECTOR, ANTENNA (AS-2)	
	⚠ 1-451-396-21	DEFLECTION YOKE (Y93SPA)	
	⚠ 1-452-443-13	NECK ASSY, PICTURE TUBE (R8367)	
	⚠ 1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
	1-544-768-11	SPEAKER (13CM) (COAXIAL)	
	*1-555-400-00	CABLE, PIN	
	*1-557-056-31	CABLE, P-P	
	1-559-865-41	LEAD ASSY, HIGH-VOLTAGE	
	1-574-590-31	LEAD ASSY, HIGH-VOLTAGE (KP-46V15(US/CND)/46V16/53V15/53V16)	
	⚠ 1-696-002-12	CORD, POWER(WITH NOISE FILTER)	
⧓R900	⚠	RES, METAL FILM 1/4W	
⧓R901	⚠	RES, METAL FILM 1/4W	
⧓R902	⚠	RES, METAL FILM 1/4W	
V901	⚠ 8-736-633-05	PICTURE TUBE 07MK(R) (SD-249) (KP-46V15(US/CND)/46V16/53V15/53V16)	
	⚠ 8-736-641-05	PICTURE TUBE 07MK2(R) (SD-249) (KP-61V15(US/CND))	
V902	⚠ 8-736-631-05	PICTURE TUBE 07MK(G) (SD-249) (KP-46V15(US/CND)/46V16/53V15/53V16)	
	⚠ 8-736-634-05	PICTURE TUBE 07MK3(G) (SD-249) (KP-61V15(US/CND))	
V903	⚠ 8-736-632-05	PICTURE TUBE 07MK(B) (SD-249) (KP-46V15(US/CND)/46V16/53V15/53V16)	
	⚠ 8-736-640-05	PICTURE TUBE 07MK2(B) (SD-249) (KP-61V15(US/CND))	

****

ACCESSORIES AND PACKING MATERIALS
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*3-704-356-01	SHEET (STANDARD), PROTECTION (KP-46V15(US/CND))	
	3-756-987-21	MANUAL, INSTRUCTION (ENGLISH)	
	3-756-987-31	MANUAL, INSTRUCTION (FRENCH) (KP-46V15(CND)/61V15(CND))	
	3-756-987-41	MANUAL, INSTRUCTION (SPANISH) (KP-46V15(US)/46V16/53V15/53V16/61V15(US))	
	*4-030-895-01	JOINT	
	*4-037-126-01	INDIVIDUAL CARTON (KP-46V15(US/CND)/46V16)	
	*4-037-127-01	TRAY (KP-46V15(US/CND)/46V16)	
	*4-037-128-01	CUSHION (UPPER) (ASSY) (KP-46V15(US/CND)/46V16)	
	*4-037-129-01	CUSHION (LOWER) (ASSY) (KP-46V15(US/CND)/46V16)	
	*4-037-165-01	INDIVIDUAL CARTON (KP-53V15/53V16)	
	*4-037-166-01	TRAY (KP-53V15/53V16)	
	*4-037-167-01	CUSHION (UPPER) (ASSY) (KP-53V15/53V16)	
	*4-037-168-01	CUSHION (LOWER) (ASSY) (KP-53V15/53V16)	
	*4-037-328-01	PLATE, TOP (KP-53V15/53V16)	
	*4-037-674-01	PLATE, TOP (KP-46V15(US/CND)/46V16)	
	*4-037-918-01	PLATE, BOTTOM (KP-46V15(US/CND)/46V16)	
	*4-038-043-01	PLATE, BOTTOM (KP-53V15/53V16)	
	*4-388-954-01	BAG, PROTECTION (KP-53V15/53V16)	
	*4-395-902-01	BAG, PROTECTION(KP-46V15(US/CND)/46V16)	
	*4-040-108-01	CUSHION (UPPER)(ASSY)(KP-61V15(US/CND))	
	*4-040-109-01	CUSHION (LOWER)(ASSY)(KP-61V15(US/CND))	
	*4-040-110-01	TRAY (KP-61V15(US/CND))	
	*4-040-111-01	PLATE, TOP (KP-61V15(US/CND))	
	*4-040-112-01	PLATE, BOTTOM (KP-61V15(US/CND))	
	*4-040-117-01	INDIVIDUAL CARTON (KP-61V15(US/CND))	
	*4-040-535-01	BAG, POLYETHYLENE (KP-61V15(US/CND))	

REMOTE COMMANDER

REF.NO.	PART NO.	DESCRIPTION	REMARK
	1-467-125-11	REMOTE COMMANDER (RM-Y115)	
	9-902-719-01	COVER (FOR RM-Y115)	
	9-998-214-01	COVER, BATTERY (FOR RM-Y115)	

Sony Corporation
TV Group

English
93EJ0547-1
Printed in USA

© 1993. 5